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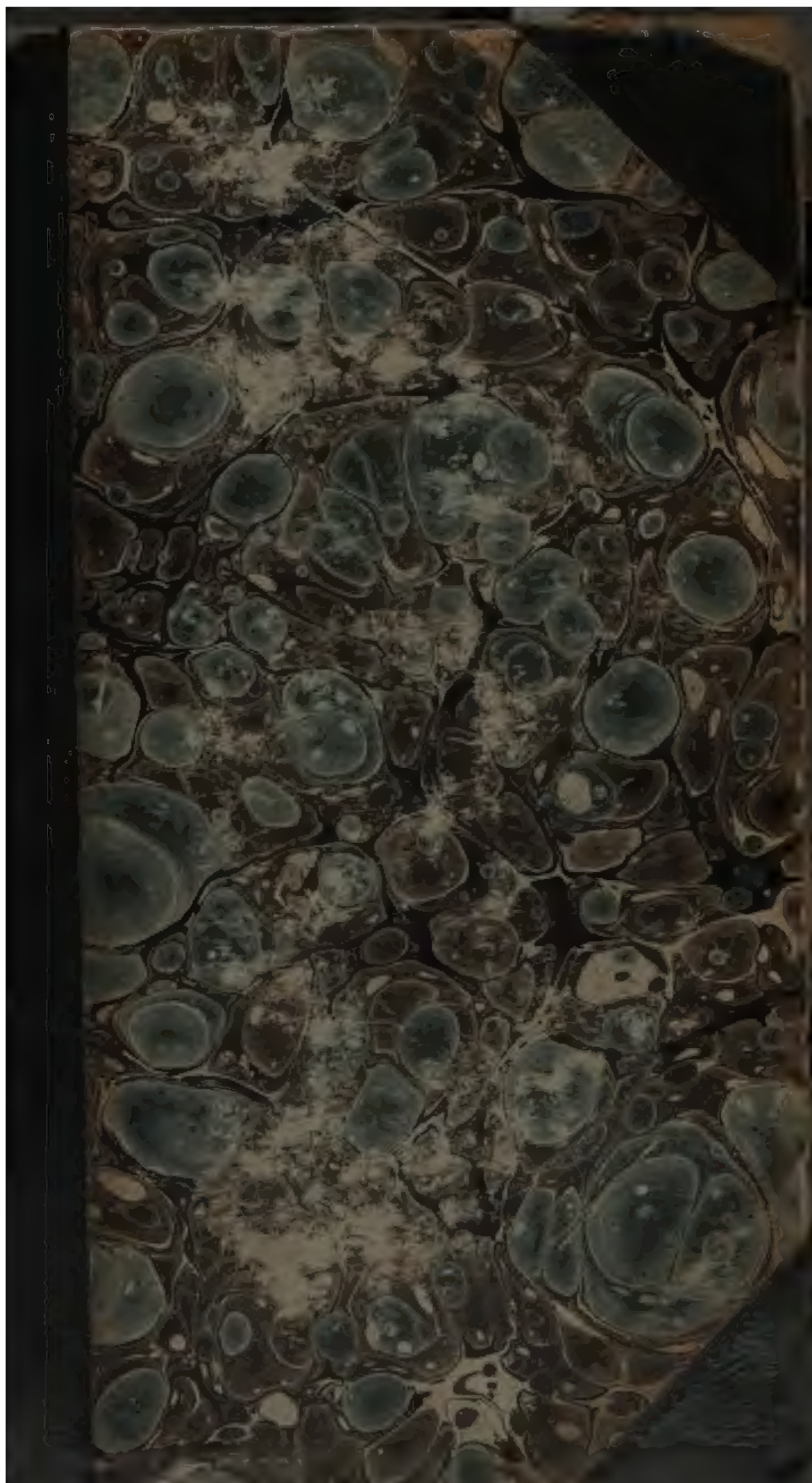
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THE
GARDENER'S MAGAZINE,



CONDUCTED

By J. C. LOUDON, F.L.S. H.S. &c.

AUTHOR OF THE ENCYCLOPEDIA OF GARDENING AND OF AGRICULTURE, AND
EDITOR OF THE ENCYCLOPEDIA OF PLANTS.

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PREFACE.

THE Fourth Volume of the Gardener's Magazine contains a number of additional facts on the important subject of heating hot-houses by hot water, and a various and extended correspondence on all the subjects which the work embraces.

In the list of authors of this and the three preceding Volumes, will be found above a hundred and fifty names of practical gardeners who have never before written in any publication. Independently of the useful facts which these writers have communicated to their professional brethren, the circumstance of having excited so many individuals to write for the first time, must, we think, be considered as attesting the utility of the Gardener's Magazine ; because to induce gardeners to think and to write, is to open up to them new exercises for the mind, a higher class of wishes to be gratified, and, in consequence, a degree of happiness increased in proportion to the exertions necessary for the gratification of these wishes.

It will be seen also, that in this Fourth Volume the number of foreign correspondents has increased, a fact which cannot but be gratifying to every reader and every writer ; to the former, because the universality of any taste or pursuit is a proof of its congeniality to the human mind ; and to the latter, because whatever may have been the motive for coming before the public, the end will be answered in proportion as that public is numerous and extended.

Writing this preface during our progress on a Continental tour, we can assure our correspondents, from personal observation, that they are not without readers either in France or Germany ; and that, besides here and there amateurs and practical gardeners who peruse the Magazine regularly as published, many of the articles it contains have been translated and circulated in the French and German languages. The notes which we are now taking will appear in our succeeding Volume, and from these it will be found that the gardeners of the Continent can, in return, give some useful lessons to those of Britain. Our part is to be the herald and recorder of gardening improvements, whatever may be the country which has given them birth, and to promote the interest of gardeners and amateurs of the art, first in Britain as our home, and next throughout the world as the abode of our friends.

J. C. L.

Munich, Nov. 2. 1828.

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of "Lettres de M. le Marquis de Chabannes à S. Exc. M. le Comte de Blacas, suivies de quelques éclaircissemens et extraites de Mémoires relatifs aux événemens présens. Londres, 1815." - 28

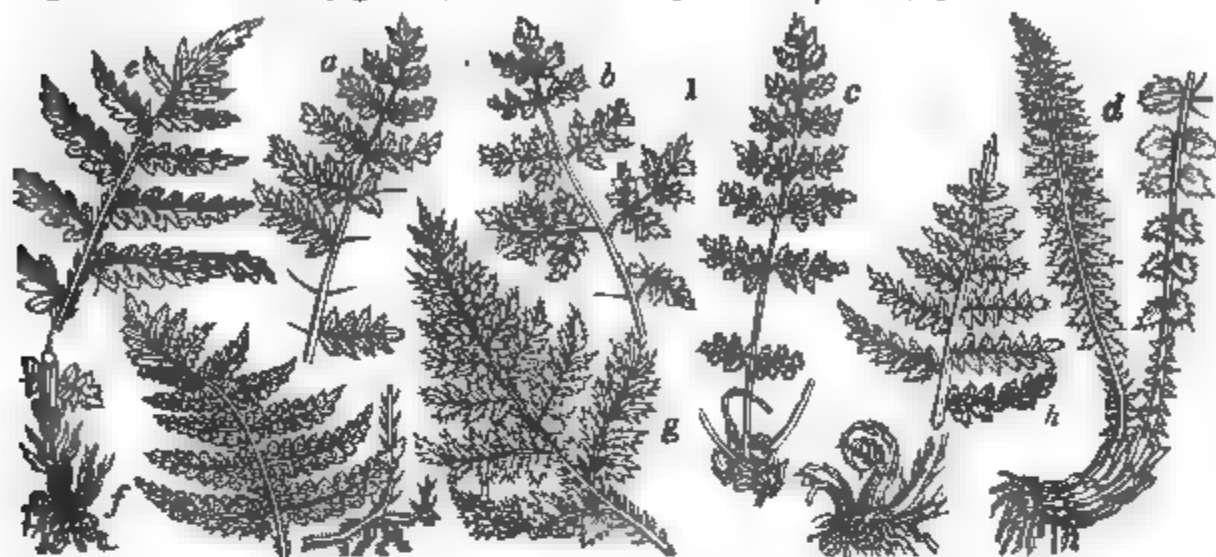
Appendix to the Marquis de Chabannes's Publication on conducting Air by forced Ventilation, and equalising the Temperature of Dwellings; published in 1818. Being a Continuation of the Description of the Patent Apparatus for warming and cooling Air and Liquids; and containing an Account of the new Water Calorifère, and other Apparatus;

Per. 19185e. $\frac{281}{4}$

The bed at Bury Hill contains the following hardy species: —

Adiantum pedatum
Aspidium bulbiferum
Aspidium dentatum (fig. 1. a)

Aspidium fragile (fig. 1. b)
Aspidium irriguum
Aspidium regium (fig. 1. c)



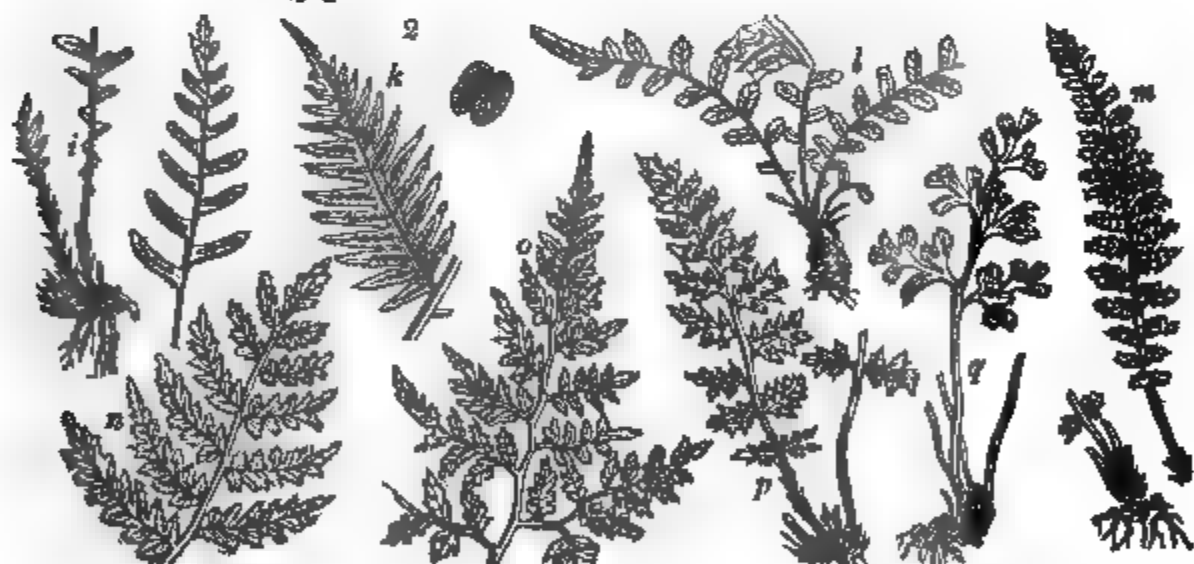
a *Aspidium dentatum*
b *Aspidium fragile*
c *Aspidium regium*

d *Aspidium Lonchitis*
e *Aspidium Oreopteris*
f *Aspidium Thelypteris*

g *Aspidium aculeatum*
h *Aspidium Filix mas*

Asplenium adiantum nigrum (fig. 2. o)
Asplenium Filix femina (fig. 2. n)
Asplenium thelypteroides
Asplenium Trichomanes
Bléchnum boreale (fig. 2. i)
Céterach officinarum (fig. 9. u)
Onoclea sensibilis (fig. 8. k)

Struthiopteris pennsylvanica (fig. 8. m)
Osmúnda cinnamómen
Osmúnda Claytoniana
Osmúnda interrupta
Osmúnda regalis (fig. 5. h)
Osmúnda spectabilis



i *Bléchnum boreale*
k *Woodwardia radicans*
l *Doëdie Aspera*

m *Asplenium fontanum*
n *Asplenium Filix femina*
o *Asplenium Adiantum nigrum*

p *Asplenium lanceolatum*
q *Asplenium Ruta-muraria*

Nephrodium (the *Aspidium* of Willd.)
aculeatum (fig. 1. g)
Nephrodium cristatum
Nephrodium dilatatum (fig. 3. t)
Nephrodium Filix mas (fig. 1. h)
Nephrodium lobatum
Nephrodium Oreopteris (fig. 1. e)

Nephrodium Thelypteris (fig. 1. f),
Nephrodium spinulosum (fig. 3. s)
Polypodium cambricum
Polypodium Dryopteris (fig. 9. t)
Polypodium Phegopteris (fig. 9. w)
Polypodium virginicum
Polypodium vulgare (fig. 9. s)



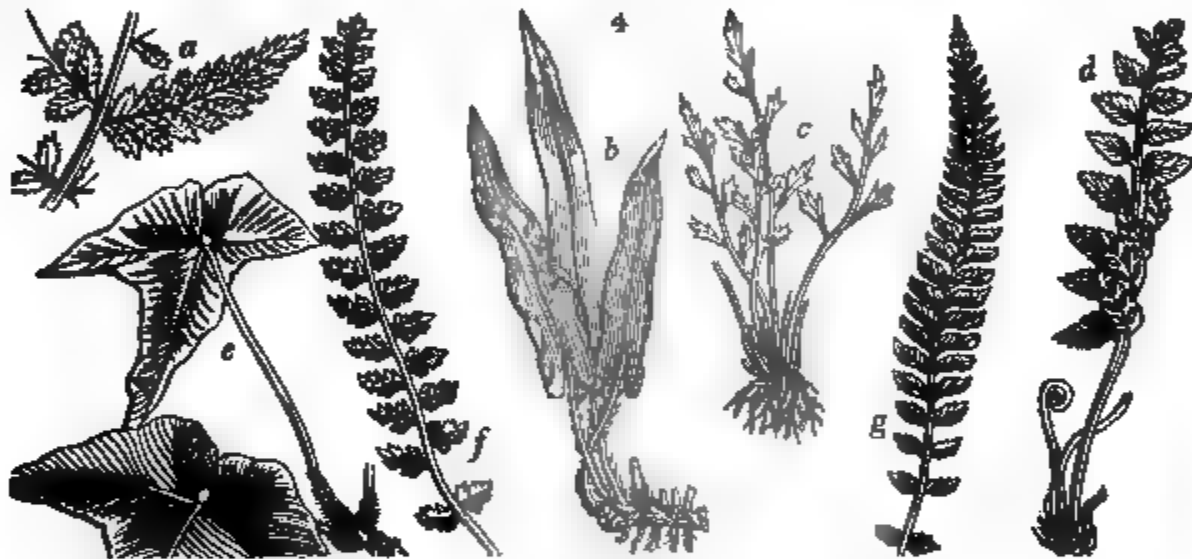
r *Cyathia arbores*
s *Aspidium spinulosum*
t *Aspidium dilatatum*

u *Woodia hyperborea*
v *Hymenophyllum tunbridgense*

w *Todea africana*
x *Trichomanes brevifolium*

Pteris crispata
Pteris aquilina
Pteris caudata
Scolopendrium officinarum (fig. 4. b)

Scolopendrium officinarum crispum
Scolopendrium officinarum undulatum
Scolopendrium officinarum multifidum
Woodwardia onocleoides



a *Allantodia umbrosa*
b *Scolopendrium officinarum*
c *Asplenium alternifolium*

d *Asplenium maritimum*
e *Asplenium palmatum*

f *Asplenium viride*
g *Asplenium monanthemum*

The smaller hardy sorts are constantly kept in pots, in a mixture of peat, loam, and sand; plenty of drainers are put in the bottoms of the pots; and a piece of broken pot is placed on each side of the plant, and the mould somewhat pressed, so as to become quite firm and compact in the pots. They are shifted any time from spring to midsummer, but seldom later. During summer they are placed in a shady situation, where they are frequently watered overhead with a fine rose. In winter they are removed to a sheltered sunny situation, where they get but little water.

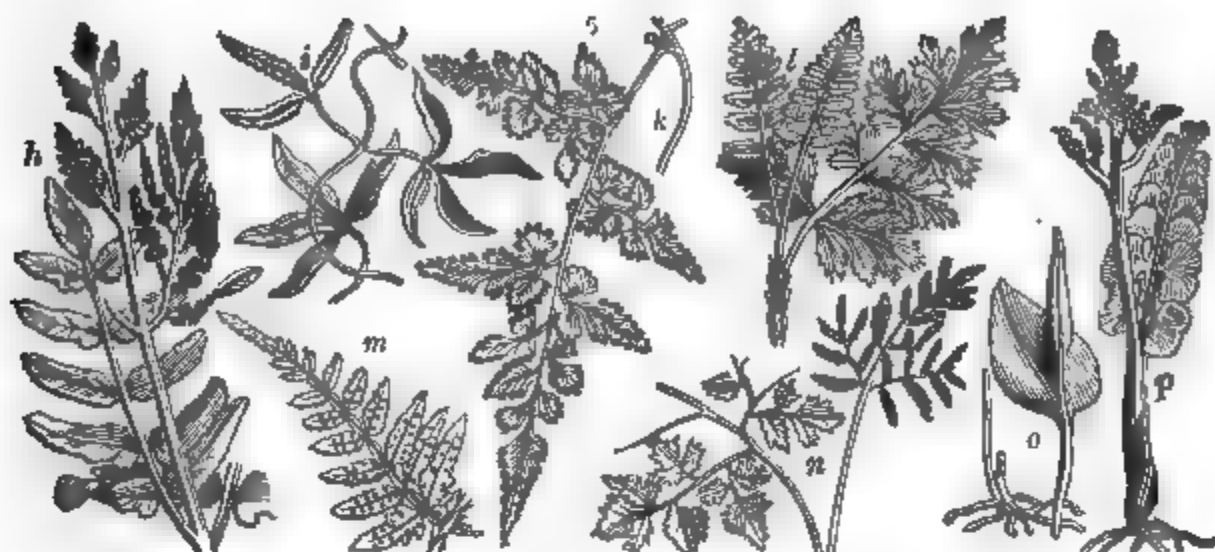
The species are as follow: —

Asplenium fontanum (fig. 2. m)
Asplenium lanceolatum (fig. 2. p)
Asplenium rhizophyllum

Asplenium Ruta-muraria (fig. 2. q)
Asplenium septentrionale
Asplenium trichomanoides

Asplenium viride (fig. 4. f)
Botrychium dissectum

Botrychium fumarioides
Botrychium Lunaria (fig. 5. p)



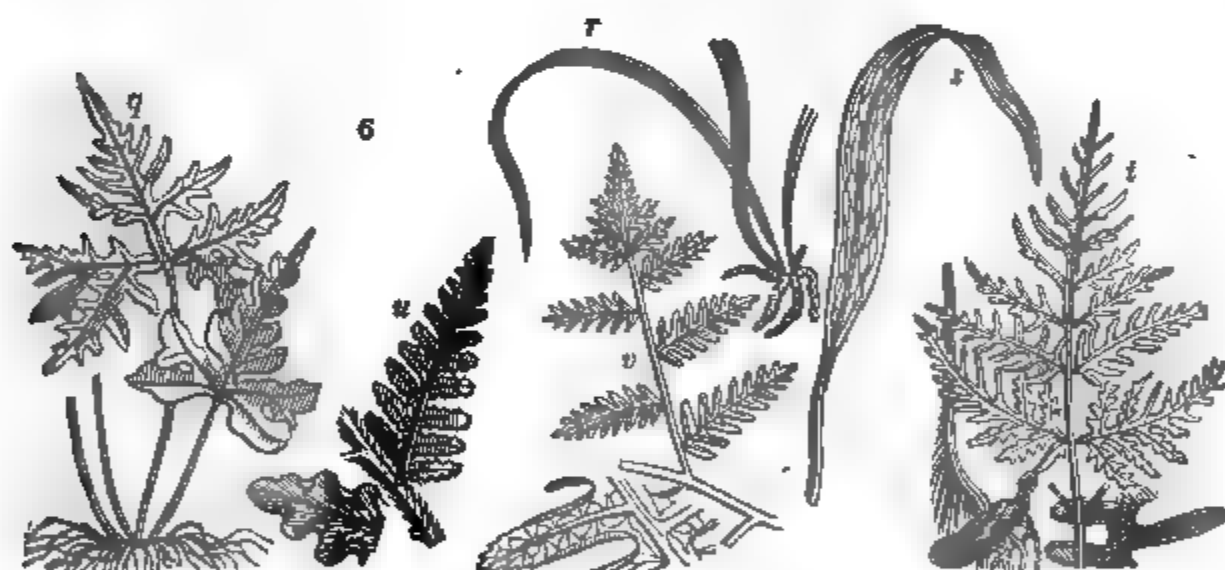
h *Osmunda regalis*
 i *Lygodium circinatum*
 k *Lygodium scandens*

l *Anemia hirsuta*
 m *Marattia alata*
 n *Botrychium virginicum*

o *Ophioglossum vulgatum*
 p *Botrychium Lunaria*

Botrychium virginicum (fig. 5. n)
Nephrodium Lonchitis (fig. 1. d)
Aspidium Lonchitis, Willd.
Ophioglossum vulgatum (fig. 5. o)

Polypodium calcareum
Schizaea pusilla
Woodsia hyperborea (fig. 3. u)
Woodsia ilvensis



q *Pteris atropurpurea*
 r *Vittaria lineata*

s *Antrophyum lanceolatum*
 t *Pteris esculenta*

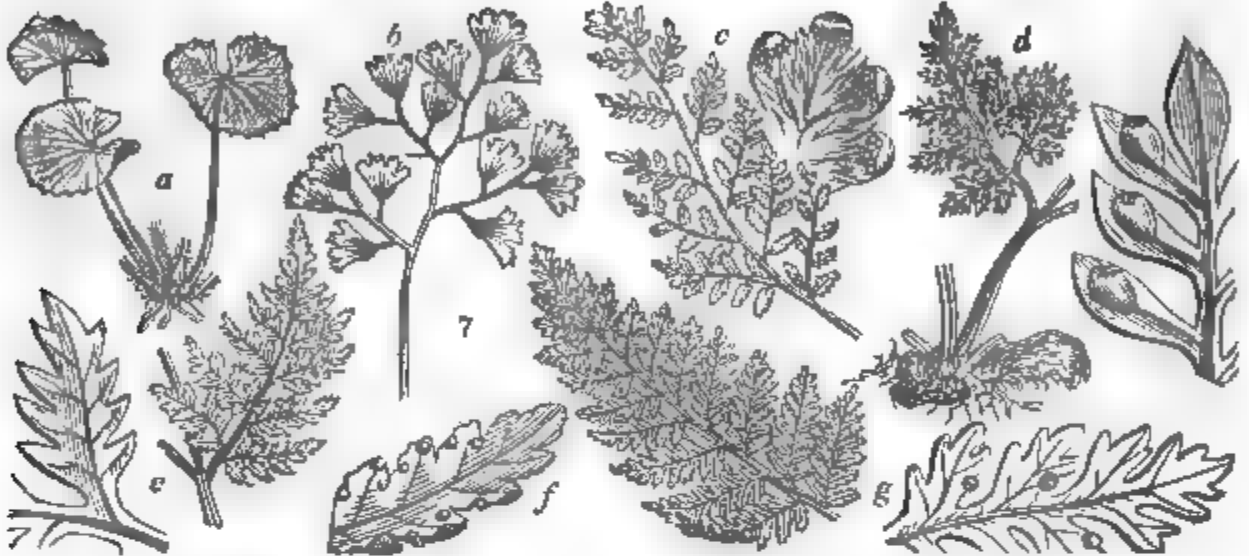
u *Lonchitis hirsuta*
 v *Pteris aculeata*

The stove and green-house sorts, and two or three hardy exotic species, are kept constantly in the stove, placed over the back flue, where they are shaded by climbers in front of them. They are potted in the same soil as the last class, and in the same manner as the hardy sorts. They are watered overhead once or twice a day in summer, except in very damp weather. In winter they are also frequently watered overhead, sometimes only enough to wet their leaves. The best seasons for shifting and dividing them are in April and November. Individual plants occasionally require shifting at different periods, from the mould getting sour and sodden in the pots from

the continued waterings; this sodden mould soon makes them look sickly if not taken from their roots. As small specimens only are kept of the larger-growing species, the whole occupy but a small space in the stove, and where few other plants would thrive. By keeping them together they are also more convenient for watering. The species kept in the stove are as follow : —

Acróstichum alaicórne (fig. 10. a)
Adiantum Capillus Veneris (fig. 7. b)

Adiantum renifórme (fig. 7. a)
Adiantum ténerum



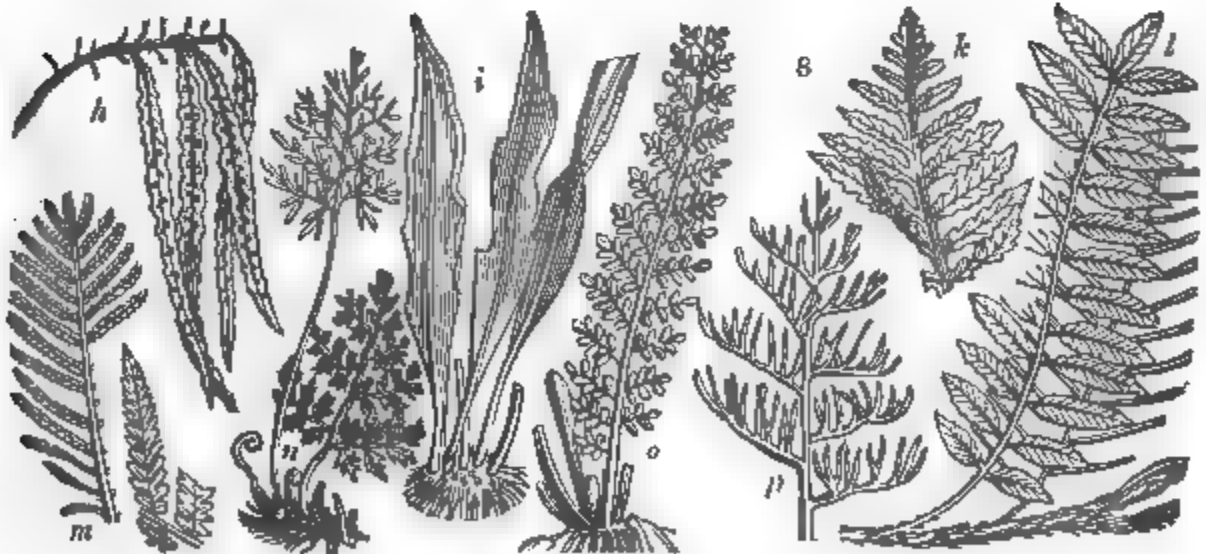
a *Adiantum renifórme*
b *Adiantum Capillus Veneris*
c *Cheilánthes vesútá*,

d *Davállia canariénsis*
e *Belántium cólcita*

f *Dicksónia arboréscens*
g *Dicksónia pilosúscula*

Adiantum trapezifórme
Aspidium trifoliátum
Aspidium patens
Asplénium Breynii
Asplénium ebénium
Asplénium difforme
Asplénium marinum (fig. 4. d)
Asplénium marinum, var. *Madeira*
Asplénium præmórium

Bléchnum jamaicéne
Bléchnum occidentále
Bléchnum orientále
Cheilánthes frágans
Cheilánthes microphýlla
Davállia canariénsis (fig. 7. d)
Davállia pyxidáta
Diplázium arbóreum
Diplázium barbadéne



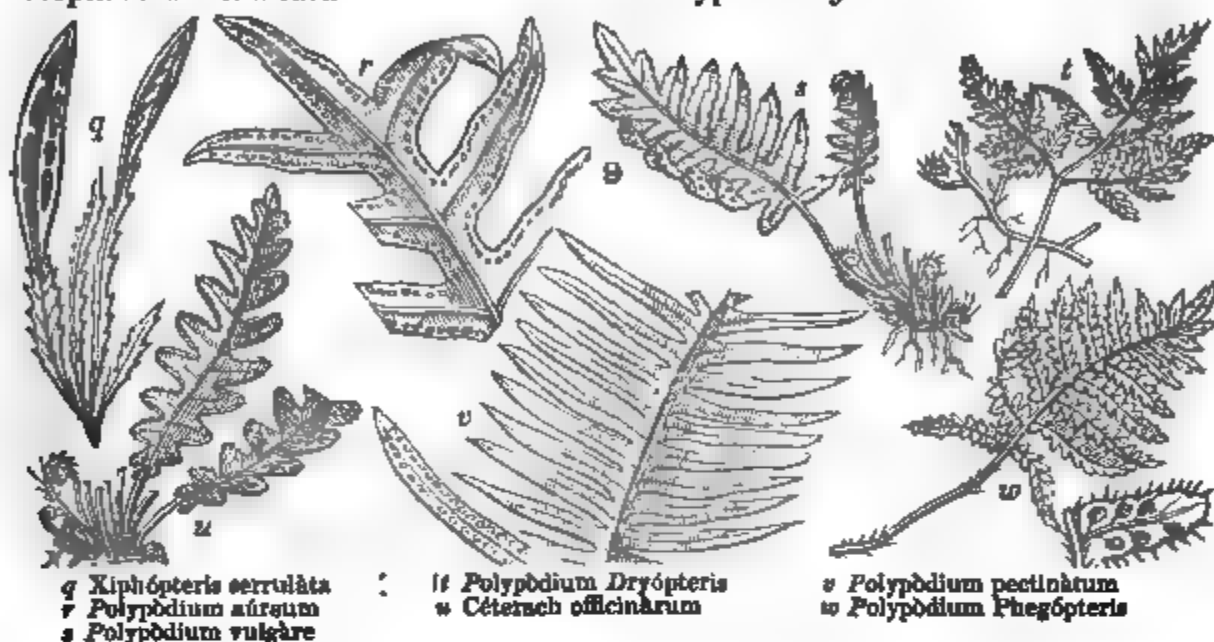
h *Polypódium sérpens*
i *Tenitis lanceoláta*
k *Oncoclés sensibílis*

l *Lomária longifólia*
m *Struthiópteris pennsylvánica*
n *Allosdrus crispus*

o *Notholaena lanuginosa*
p *Ellobocárpus oleráceus*

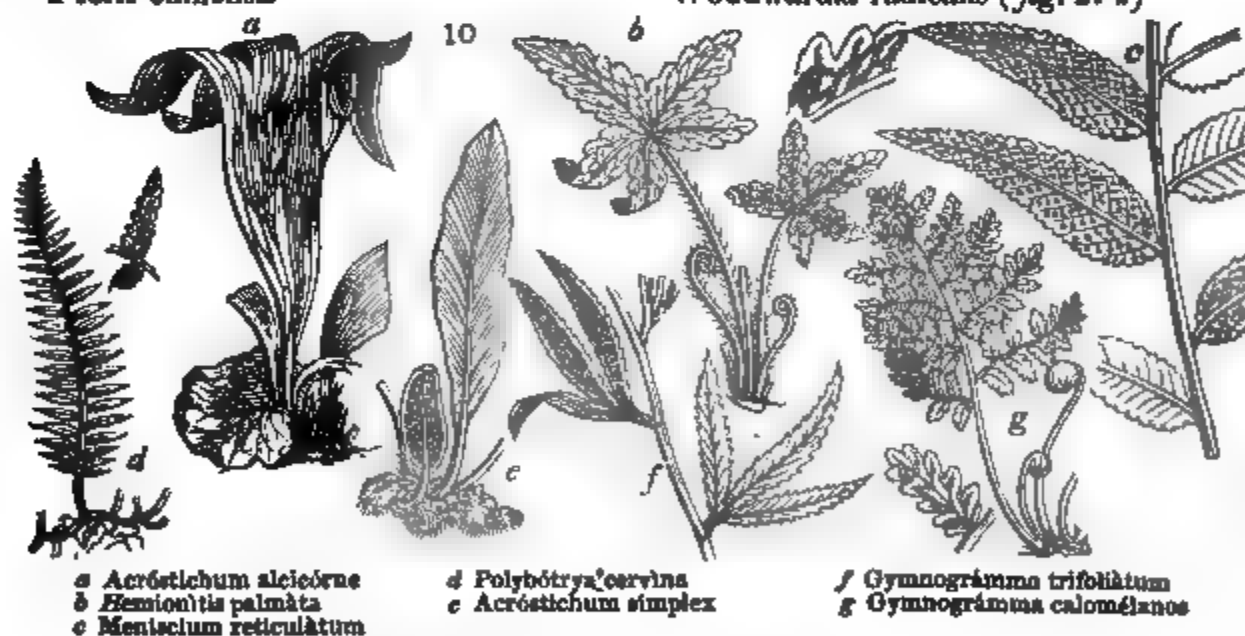
Diplazium plantaginum
Diplazium seramporense
Doëdia aspera (fig. 2. l)
Hemionitis palmata (fig. 10. b)
Hemionitis rufa
Lygodium scandens (fig. 5. k)
Nephrodium exaltatum

Polypodium angustifolium
Polypodium asplenifolium
Polypodium aureum (fig. 9. r)
Polypodium carnosum
Polypodium crassifolium
Polypodium effusum
Polypodium fraxinifolium



Polypodium phymatodes
Polypodium Phyllitidis
Polypodium rupestre
Polypodium serpens (fig. 8. h)
Polypodium pectinatum (fig. 9. v)
Polypodium tetragonum
Pteris arguta
Pteris chinensis

Pteris cretica
Pteris hastata
Pteris longifolia
Pteris pedata
Pteris Plumièri
Pteris serrulata
Woodia pubescens
Woodwardia radicans (fig. 2. k)



I wish you could prevail upon Messrs. Loddiges, or Mr. Shepherd, to write upon the subject of ferns, as they are much better acquainted with their treatment.

I am, Sir, yours, &c.

Bury Hill, February 11. 1828.

DAVID CAMERON.

ART. II. *Description and Origin of the Mode of Grafting, formerly called by the French Greffe Kew, now Greffe Blaikie.* (*Gard. Mag.* vol. ii. p. 38. fig. 12.) By M. OSCAR LECLERC, of the Jardin du Roi, Paris.

Sir,

IN vol. ii. p. 389. of the *Cours de Culture et de Naturalisation des Végétaux* [3 vols. 8vo, with a quarto volume of plates], you will find a short description of a mode of grafting, which the late Professor Thouin has denominated *Greffe Kew*, from not knowing the inventor, and supposing it to be of English origin.

I have learned, but a few days ago, that our mutual friend, Mr. Blaikie, originated the first idea of this ingenious operation. This zealous horticulturist informed me that the *greffe par approche au moyen de l'eau* (approach-grafting with water-glasses) (*fig. 11.*) was neither practised at Kew, nor, as far as he knew, in any other garden in England, at the time he invented it.

This mode of grafting, which I shall henceforth call the *Greffe Blaikie*, succeeds in most plants both of the hot-house and open air; and it seems particularly well calculated for the propagation of intertropical plants and trees. The success which attends it on delicate hot-house plants, and particularly on those which are hard-wooded, is very difficult to be obtained by any other means.

During the time when the sap is in full activity, the scion must be procured, if possible of exactly the same diameter as the stock on which it is to be grafted.

First, make two lateral oblique incisions, exactly similar, the one on the stock (*fig. 11. a*) from above to below, the other on the scion from below to above (*b*), and both sloping from without towards the centre or interior of the wood. The tongues (*c c*) are then cut in the form of a long wedge, by stripping them of their bark. The cut parts are next reunited, taking care, as usual, to make them coincide as exactly as possible.



The scion being bound by ligatures to the stock in the ordinary way, the inferior part of the scion is plunged in a vessel of water. (*fig. 12.*) It will, however, be necessary to remove the water from time to time, and to renew the base of the submerged scion by cutting off its extremity.

The stock is sometimes headed down immediately after the operation; in which case particular care must be taken to leave a bud or a shoot above the incision (*fig. 11. d*), in order to attract the sap to the place where the operation was performed. Sometimes, however, the stock is not headed down till after its union with the scion is completed. When the plant operated on is small, and the scion of a delicate species, the plant should be covered by a bell-glass, to prevent the too great transpiration of the leaves. The air in the interior must be occasionally renewed, as, without this attention, it would, by the evaporation of the water, be rendered too humid.



If the diameter of the scion is less than that of the stock, the operation must of course be different from the preceding. In such a case, the incisions must be limited simply to two longitudinal ones of equal dimensions, one on the scion, the other on the stock (*fig. 13.*) This is the easiest and the most natural mode, and also the most favourable for giving solidity to the graft. But the intelligent practitioner will always modify the operation agreeably to the circumstances under which it is to be performed; employing some one of the numerous methods known by the name of *greffe par approche et en fente latérale* (approach-grafting, and by lateral clefts or slits).



I mentioned above, that Mr. Blaikie's method succeeded universally on hardy ligneous plants; let me add, that in such cases, when it is desired to prevent evaporation produced by the winds or the solar rays, a strong paper or parchment cap, fixed on just below the junction of the parts operated on, and enclosing all the rest of the upper part of the stock, is a very good plan. This precaution should be used with all delicate grafts in the open air, when the scions have any leaves on them; and particularly in the case of resinous or gummy trees.

It has lately been recommended to insert the scion into earth, either the free soil or soil in a pot, the latter being maintained at a proper degree of heat.

[Mr. Murray, of the Glasgow botanic garden, inserts the ends of the scions into potatoes or turnips, and the success is as great as when glasses of water are used.]

Sometimes two plants are produced instead of one, in consequence of the part of the scion which is below the junction serving as a cutting, and rooting in the water. The faculty possessed by the stalks of plants, of living in water long enough to develope their roots, is well known: the *Greffe Blaikie* is a happy application of this property of vegetables.

I am, Sir, &c.

OSCAR LECLERC.

*Administration du Muséum d'Histoire
Naturelle au Jardin du Roi à Paris,
Fev. 18. 1828.*

ART. III. *Plan for laying out Four Acres of Land as a Villa Residence.* By Mr. JOSHUA MAJOR, Landscape-Gardener.

Sir,

OBSERVING in your Magazine for March, 1826 (Vol. II. p. 253.), that a correspondent calls your attention to the laying out of a small garden with a selection of fruit trees suitable for it, I beg to hand you the following remarks on that subject, along with a plan. It is needless to remark on the impossibility of meeting the wishes of your correspondent, without the data and desiderata of his case; but, as you have invited the aid of contributors, it may not be improper to send you the accompanying design for laying out a four-acre field, supposing it to be of the shape laid down, gradually sloping to the south, and supplied with water, and that this field constitutes the whole estate. Although the plan sent may not suit exactly the wants and wishes of any individual, yet I trust it will not be destitute of some useful information to your correspondent, and others possessing only small residences.

Permit me to state it as my opinion, that when gentlemen are not themselves acquainted with the art of laying out grounds, or have not gardeners who are, the simplest and most economical mode of proceeding is, to employ at the first set out a landscape-gardener who shall give a design, and fix the site for the house and offices, and who, if required, shall farther supply a superintendent to execute the work. This would not only prevent the work from being repeatedly done and undone, but it would be executed in a superior manner. Let me not be accused of advancing this from interested motives; I merely wish to record the fact, that, for want of professional assistance, generally withheld on the principle of economy, a great number of gentlemen's residences are spoiled, while the expense is increased instead of being dimi-

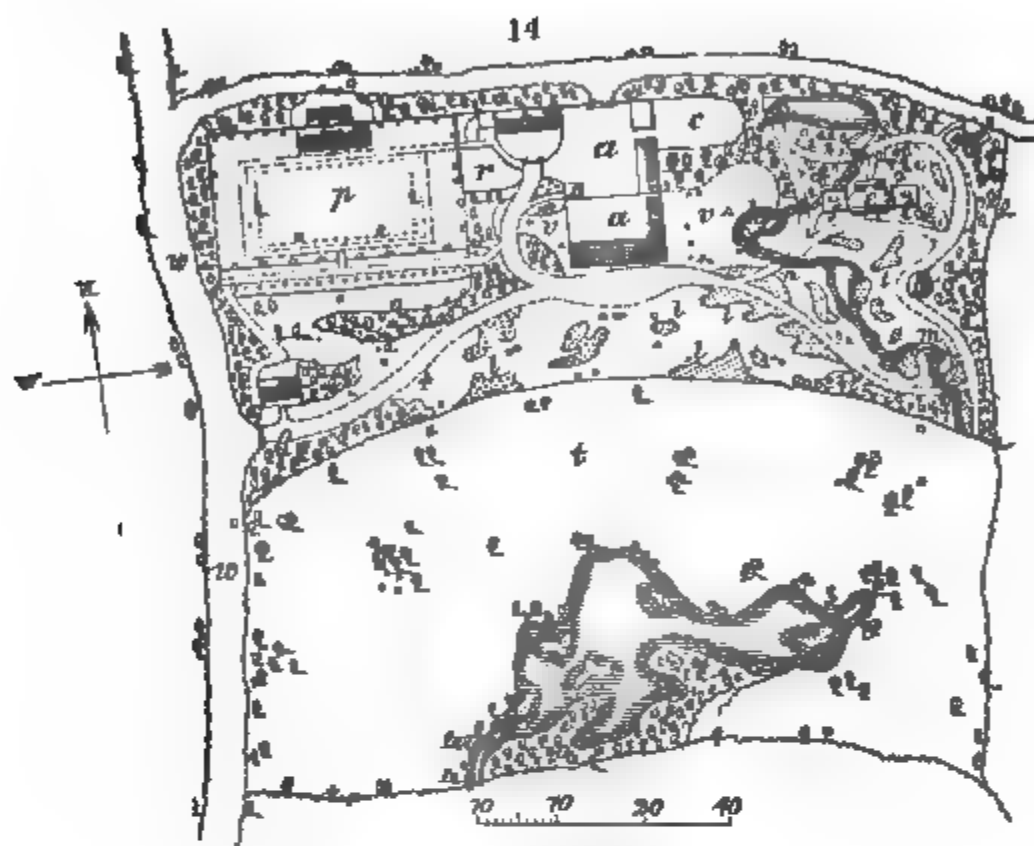
nished. I shall say nothing about a selection of fruit trees, as you have contributors far more competent in that department than I pretend to be.

I am, Sir, &c.

Knowstrop, near Leeds,

JOSHUA MAJOR.

August 14. 1827.



References to the Plan. (*fig. 14.*)

- a*, Mansion, offices, and kitchen-yard.
- b*, Stable-yard and manure-receptacle.
- c*, Clothes-yard.
- d*, Bath, and swimming-pond adjoining.
- e*, Green-house, with a recess for small birds confined by a net, or by wire-work.
- f*, Summer green-house and aviaries.
- g*, Ice-house.
- h*, Moss-house, or grotto, and rockwork.
- i*, Flower-garden, formed by a lawn and various-shaped dug beds for flowers.
- k*, Rivulet, forming a pleasing portion of the pleasure-ground, and well adapted for aquatic plants.
- l*, Masses of shrubs. The forms of dug surface are to be kept as they are till the plants sufficiently extend to cover them, when the ground outline will be broken by the natural growth of the plants, especially by those of the evergreen kind.
- m*, Beds for bog plants.
- n*, Roses in masses.
- o*, Forest planting mingled with undergrowths, and fronted, in the parts most seen, with valuable evergreen and flowering shrubs, interspersed with occasional groups of flowers, especially about the flower-garden: near the house, with early flowering kinds.

p, Kitchen-garden. This should have a south brick wall, which will be proper for peaches, nectarines, and apricots ; a portion of the east and west line to be a wall proper for choice pears, plums, and cherries ; and the remainder of the enclosing fence to be iron trelliswork, on which to train apples, pears, plums, and cherries. This trellis will not offend the eye as a wall would do, were it erected there to the same extent. Four dwarf fruit trees will be sufficient for the interior of the garden, as too many prevent a free circulation of air, which proves highly injurious to the flavour of culinary vegetables. Dwarf apples, pears, plums, and cherries may be planted in the front of the forest plantation round the kitchen-garden, and some few in different parts of the pleasure-ground, especially apples. A few walnuts may be planted in the field ; and one or two mulberries, quinces, and medlars in the lawn, not too near the house. Gooseberries and currants may be planted on the inner side of the walks, but, at the least, 4 ft. from them, and a row of raspberries 3 ft. from the walk outside of the area. Filberts and nuts will form a portion of undergrowth in the forest planting, and will be fruitful in situations not too confined.

q, Hot-house, shed, and compost-ground.

r, Melonry, and reserve-ground.

s, Lodges and gates.

t, Grass field, varied by single trees and groups, with a piece of water ; the whole separated from the lawn by a light iron fence.

v, Lawn, varied by groups of shrubs of different sorts and sizes, naturally formed patches of crocuses, snowdrops, &c. In planting trees, shrubs, and flowers, it is intended that each kind should be placed in smaller and larger groups, taking particular care that they are not put in stiff, round, or square forms.

w, Public road.

This communication ought to have been inserted sooner, but Mr. Major is not the only correspondent to whom we are deeply in arrear. Mr. Major will render a service to gardening if he will favour us with a series of plans for laying out estates of different sizes, from 5 acres to 100 acres, and upwards. They need not be drawn on a large scale, and after the originals have been copied by the engraver, they shall be carefully returned, if desired. Mr. Major's plans are drawn with great neatness, and every part is so distinct, that the most inexperienced gardener may work from them. The residing of so able a garden-artist in a central situation like Leeds, must be a great convenience to proprietors in that part of the country ; and his being employed, we should hope, may improve the taste of the district. — *Cond.*

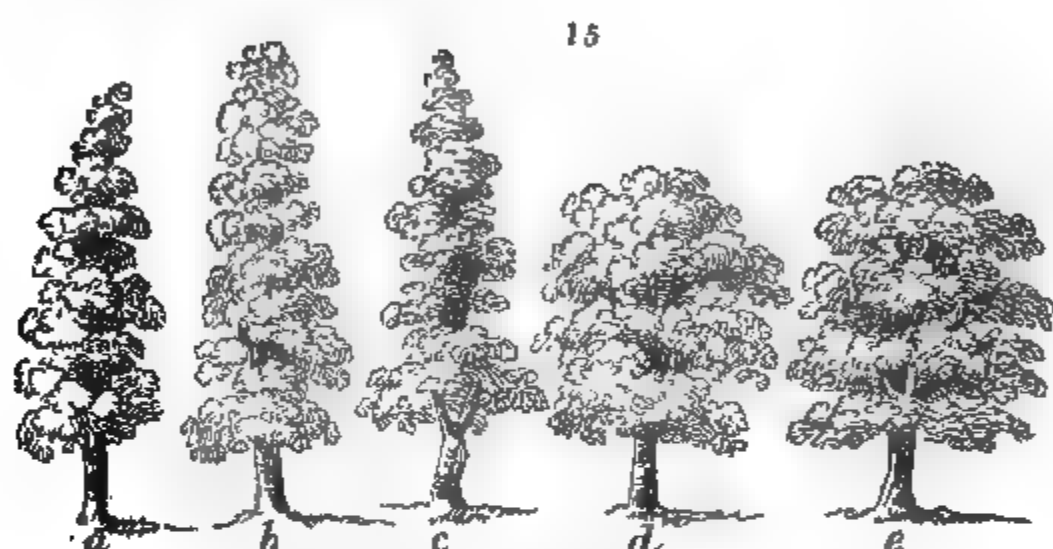
ART. IV. *On certain Varieties of Pear Tree, considered with Reference to their Effect in Landscape-Gardening, as well as to the Quality of their Fruits.* By Mr. ARCHIBALD GORRIE, C.M.H.S.

Sir,

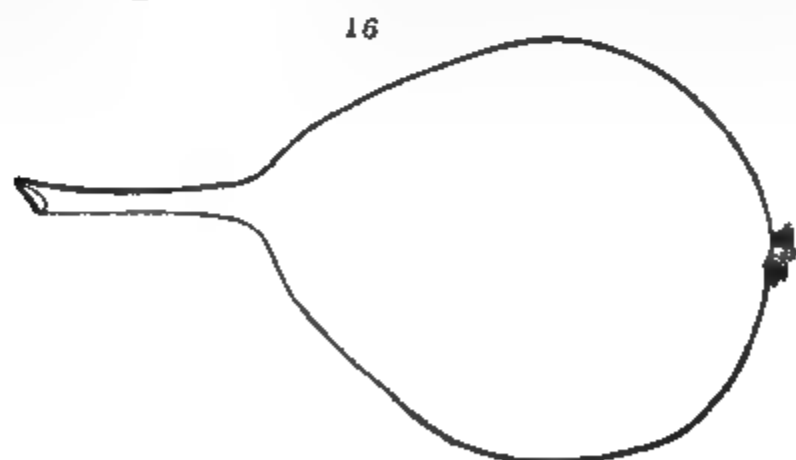
I HOPE I shall not be considered as trespassing on the territory of the landscape-gardener, when I attempt to introduce

to his notice a few varieties of the pear tree found in Scotland, which I am convinced might, by a skilful hand, be planted with much advantage either in groups, or as solitary trees, in the lawn or pleasure-ground.

I know of no species of tree that produces greater variety of form than the *Pyrus communis*; indeed, it would be difficult to imagine any form of deciduous tree that may not readily be found in some one or other of this interesting tribe. The few I shall notice in the mean time are, I believe, but little cultivated, with the exception of the Benvie (*fig. 15. a*), and are peculiar to this part of the country. The following sketch (*fig. 15.*) will show their form and relative altitude:—



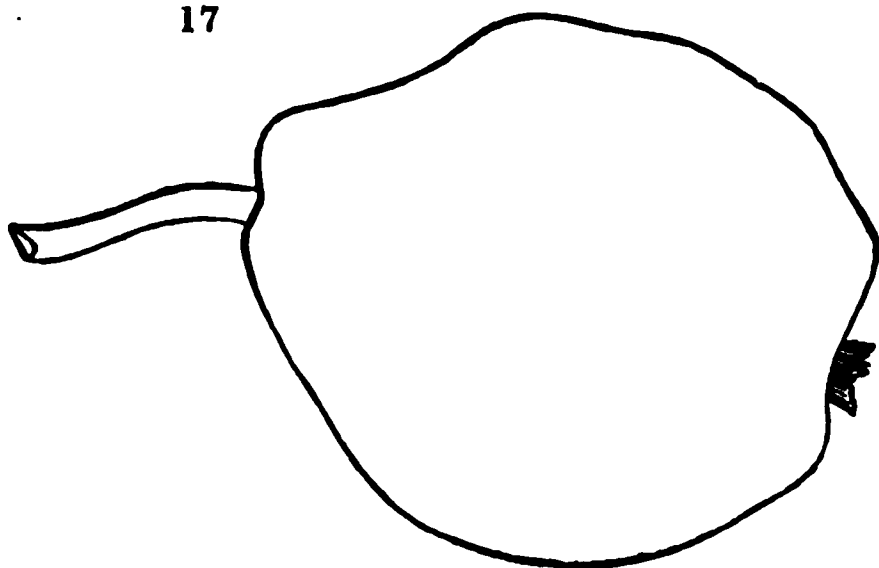
The Benvie pear (*a*) is extensively cultivated. The original tree is still standing in an orchard bearing the name of Benvie, in the Carse of Gowrie, Perthshire, but is much decayed. The young trees, however, which are cultivated in almost every orchard, show no marks of approaching dissolution, and are easily known at a distance by their slender and towering form. The annexed figure (*fig. 16. natural size*) shows the shape and



size of the fruit of the Benvie, which is ripe in August, and is an excellent dessert pear.

Nothing can be conceived more beautiful in rural scenery than the Golden Knap pear tree (*fig. 15. b*), either in spring, when its slender twigs are literally covered with snow-white blossoms; in summer, when it presents a dense mass of sea-green foliage; or in autumn, when the whole is studded over with beautiful fruit (*fig. 17.*), resembling knobs of a rich gold colour. The tree

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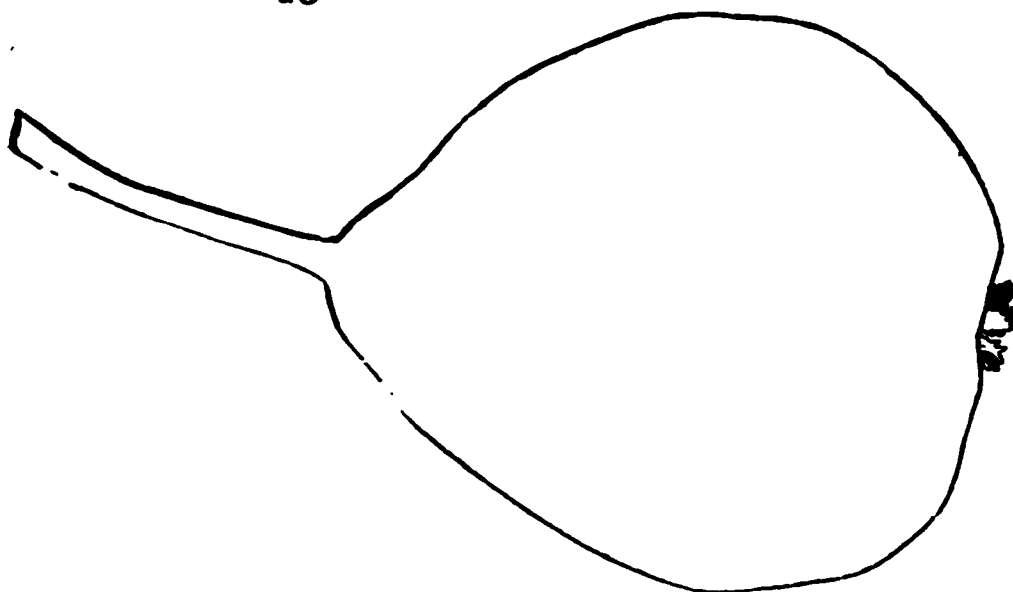


generally grows to from 45 to 50 ft. in height, and yields, when full grown, about 35 bushels annually. The fruit is ripe in October, and is a favourite in the market: it is known at Castle

Huntley by the name of Lady Mary's pear. There are several other varieties which get the name of Golden Knap, but the trees are of more humble growth.

The Elcho pear (*fig. 15. c*) may be called the Lombardy poplar of the pear tribe, and bears abundantly; the fruit (*fig. 18.*) is of a dusky colour, but tastes well.

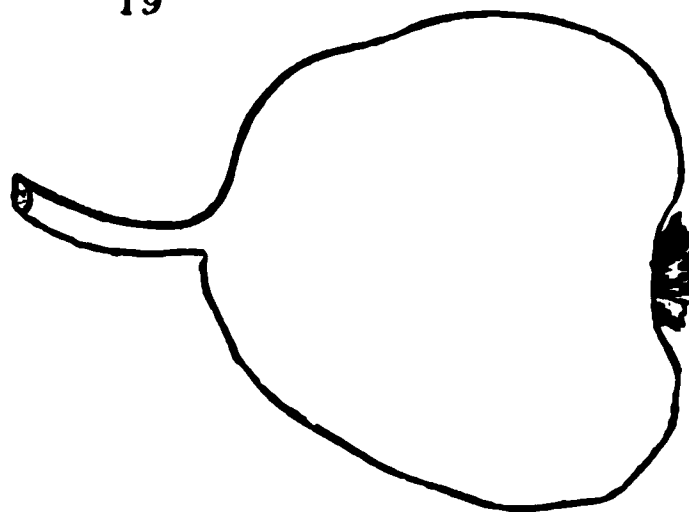
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The Busked Lady (*fig. 15. d*)

looks extremely gaudy in autumn, when it is generally loaded with beautiful glossy white and red fruit (*fig. 19.*) which is ripe in October, and may be sent to table.

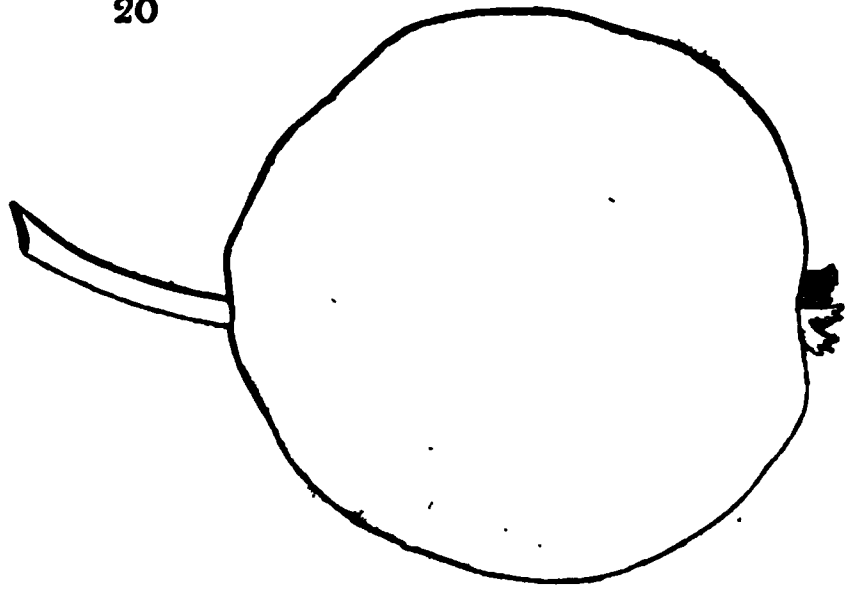
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The Pow Meg (*fig. 15. e*) has a more sombre appearance, the fruit, however, is of a beautiful red next the sun, and yellow on the other side (*fig. 20.*); it is a good dessert pear in the month of November. Both the Busked Lady and Pow Meg are round-headed trees, and certain and great bearers. I might have

added the Pear Duncan, a tree similar in form to the Pow Meg, but the branches are more straggling. It is an amazing bearer, and a healthy tree, but I find I have not room for drawing either tree or fruit.

20



You will see I have not ventured to group the trees described, thinking it best to show them in their natural form, and leaving it to you, or some of your scientific correspondents, who may be willing to assist me in rescuing from oblivion the beautiful and elegant trees in question, to favour us with some remarks, illustrated by a drawing, to show the proper method of arranging such trees, *secundum artem*, and if we succeed in exciting attention to the subject, so as to produce a demand for such trees, nurserymen will, in consequence, find ways and means to furnish a supply.

I am, Sir, &c.

ARCHIBALD GORRIE.

Armat Garden, December 8. 1827.

ART. V. *Description of a Flower Stand, and Case for the Conveyance of Flowers to Flower Shows, &c.* By SUFFOLCIENSIS.

Sir,

I SEND you a sketch of a flower stand and case (*figs. 21, 22, and 23.*), which I have had in use this summer, for the convenience of conveying specimens of roses, pinks, dahlias, and other flowers, from place to place; and I find I can carry them to any distance without injury.

It will be observed that every flower is placed in a phial of water (*fig 21.*), which is a common two-ounce phial, each of which shows only its top above the shelf on which appears the flower, and, passing through the next shelf below, rests upon that under, which keeps them all steady. Those of the lower row are shorter, and only go about half an inch into the outward edge of the bottom shelf of the stand.

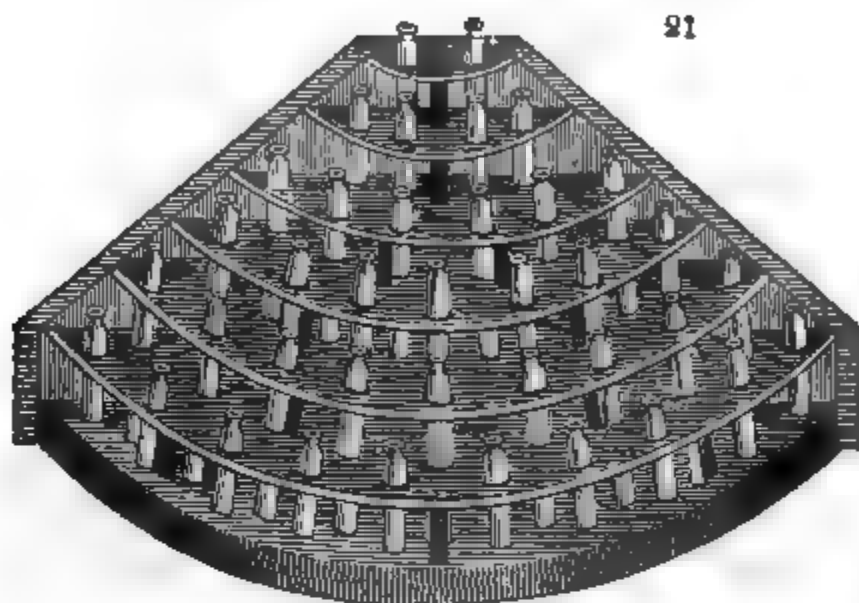
A great convenience in this stand is, that it makes a pretty appearance, when filled with handsome flowers, in a sitting

room; or two of them, placed back to back, form an elegant ornament for the centre of a table.

Yours, &c.

December 1. 1827.

SUFFOLCIENSIS.

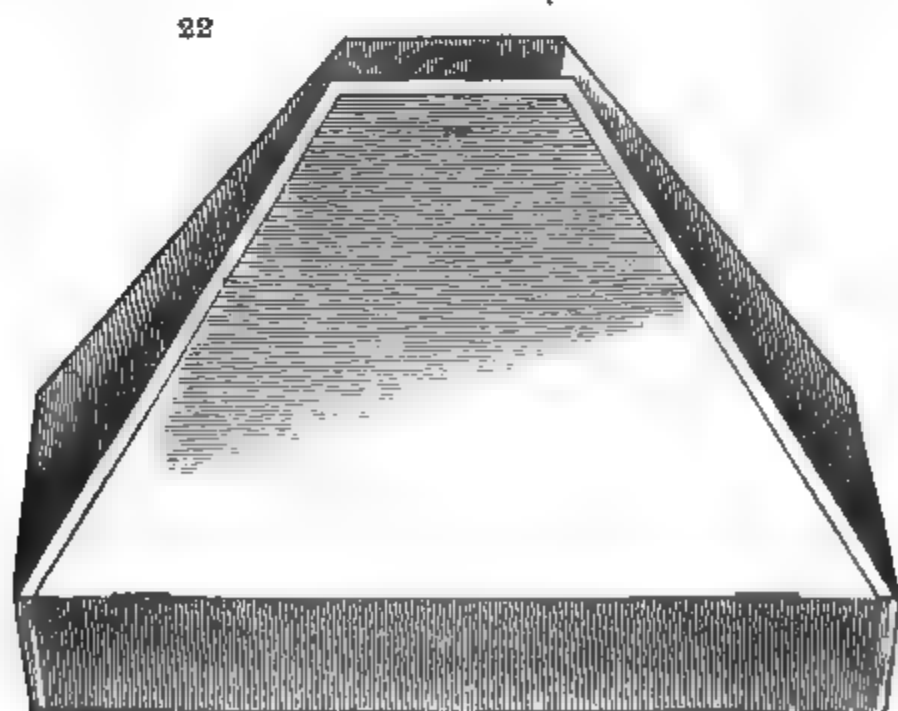


The following are the dimensions of the stand (*fig. 21.*): —

The front circle at bottom, 2 ft. 5 in.

		ft.	in.
The bottom row contains	10 vials; breadth of the back part,	1	8
The second row contains	9 vials; breadth of the back part,	1	5
The third row contains	7 vials; breadth of the back part,	1	2
The fourth row contains	6 vials; breadth of the back part,	0	10½
The fifth row contains	4 vials; breadth of the back part,	0	7½
The sixth row contains	2 vials; breadth of the back part,	0	4½

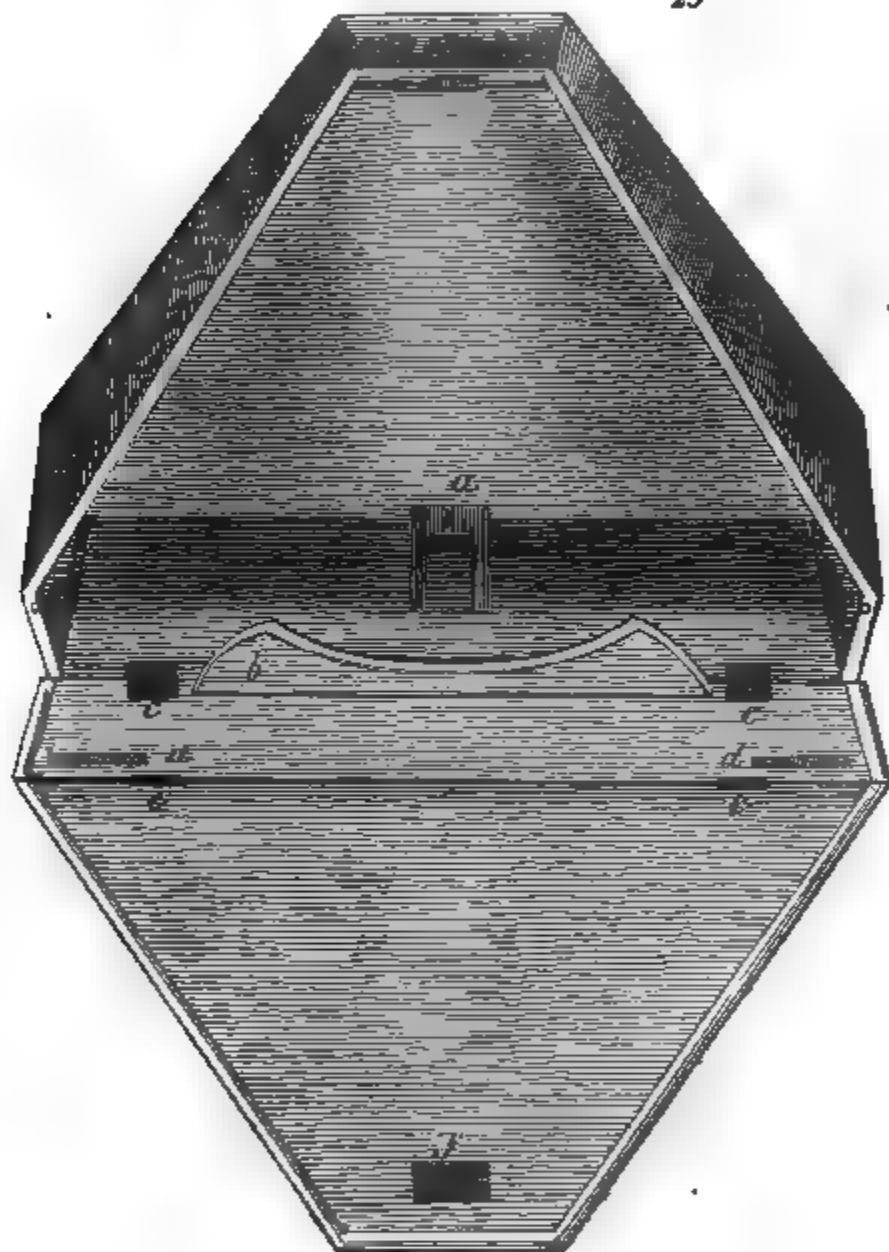
Fig. 22. represents the case shut, with the stand enclosed.



The inside dimensions of the case, when empty (*fig. 23.*), are as follow : —

At bottom the breadth is	ft. 1	in. 9,	and the depth	in. 10 $\frac{1}{4}$
At top the breadth is	0	7,	and the depth	3 $\frac{3}{4}$
At back the height is	1	5		
Front bevelled part -	1	3		
Front lower part -	0	4		

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a, A piece of oak on the bottom of the case, to receive a similar piece, dovetailed on the bottom of the stand, to keep it steady.

b, A circular piece of fir, to fit the front of the stand and case, to prevent its shifting.

c c, A pair of hinges.

d d, Two small bolts, to secure the lower part of the front when closed.

e e, A pair of hinges.

f, A lock, to secure the case when closed.

ART. VI. *An Account of some Improvements made in the Apparatus for circulating hot Water in Hot-houses by Messrs. Cottam and Hallen, of Winsley Street, London.* By Mr. GEORGE COTTAM, F.H.S.

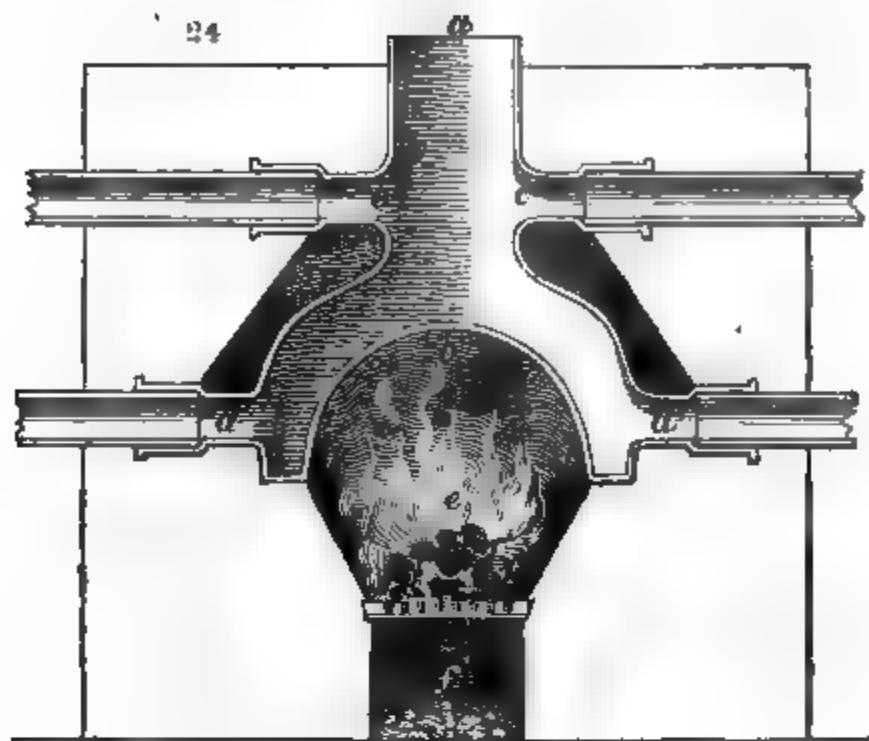
Sir,

As the heating of graperies and vineries by the circulation of hot water is every day becoming more general, you may perhaps deem any improvement in the apparatus for that purpose worthy of record in your journal. No new scheme was ever brought to perfection at once, and therefore it is not to be wondered at, that some of the boilers and pipes recently erected for the purpose of circulating hot water, should have failed in supplying a sufficiency of heat, not merely for the purposes of forcing grapes and peaches, and growing pines, but even for the less difficult object of warming a green-house during frosty weather.

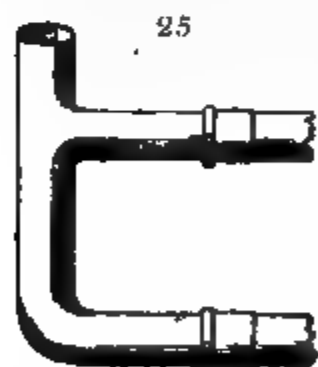
In examining some of the houses alluded to, it would appear, by the shape of the boiler generally adopted, a square or oblong tank, that it was requisite the boiler should hold a great quantity of water. This, however, is not the case, for I have proved, both by experiments made with the tin and copper models, which you have examined here (see Vol. III. p. 474.), and also by hot-houses of different descriptions that I have heated with hot water, that a large quantity of water is by no means required. The water is merely the medium through which the heat passes from the fuel consumed to the atmosphere to be heated; therefore, the quantity of water required in the boiler is no more than what will cover a surface sufficient to receive the heat from the requisite portion of fuel consumed beneath it.

The boiler, of which I enclose you a section (*fig. 24.*), is of a shape the most advantageous for this purpose: it exposes a greater surface to the fire than any other form; and what deserves particular attention is, that this surface is in the best possible situation for receiving the greatest quantity of heat from burning fuel. It is observed by Mr. Tredgold, in his excellent *Treatise on the Steam Engine* (p. 122.), that as the fire, or bottom, surface of a boiler is the most effectual heating surface, it should be of sufficient area to receive the whole effect of the fire; while the flue surface, or sides, may receive the heating effect of the smoke. By narrowing the top of the boiler (*a*), the heat received from the fuel is immediately conducted from all points of the bottom surface (*b*) to the entrance of the pipes (*c*), through which it is to be circulated. In consequence of this, there will be less accumu-

lation or retention of heat in the boiler, and a more immediate and rapid circulation, than in the case of square, oblong,



round, or any other description of boiler hitherto in use for heating hot-houses. I shall not trouble you with descriptive details of the returning pipes (*dd*), or of the fire-place and ash-pit (*ef*); but I shall just observe, that the top of the boiler (*a*) may be covered with a lid of wood, iron, or stone, and that, where the circulation is extensive, as in the case of heating several houses from one boiler, the motion of the water will be promoted by leaving the lid loose, and by having one or two openings, for the admission of the atmosphere, in the conducting pipes. I have clearly proved, by experiments with copper models, that these openings, or air-pipes, increase the circulation; and I have had cast-iron elbows



made with air-pipes (*fig. 25.*), which I can introduce at pleasure, instead of large reservoirs, or use with or without them, according to the nature of the house to be heated.

I observe one of your correspondents enquires if a green-house can be heated from a library or a kitchen fire by hot air. I have heated a conservatory from a boiler placed behind the fire of an adjoining library with complete success; and I agree in opinion with you, that if any thing is to be done in the way of obtaining heat for extra purposes from domestic fires, it is more likely to be effected by the hot water system than by any other. It should never

be forgotten, however, that no human power can obtain more than a certain quantity of heat from a certain quantity of fuel.

I have upwards of a dozen models by me, with which I made experiments for heating by hot water several years ago, soon after I heard of Mr. Scott's house at Sundridge Park having been so heated: but I have no pretensions to invention in this mode of heating; I had only the good fortune to be an early purchaser of the Marquis de Chabannes's pamphlet, and to have seen a paper on the subject in the *Repository of Arts*, of a still earlier date, but to which I cannot now refer.

I am, Sir, yours, &c.

GEORGE COTTAM.

Manufactory, Winsley Street, Oxford Street,

March 12. 1828.

ART. VII. *An Account of some Hot-houses in Yorkshire, in which Steam is employed along with Water, for the Purposes of heating.* By Mr. HENRY BAINS, of the York Nursery.

Sir,

PERMIT me to offer a few hints to such of your readers as are adopting the hot water where steam has already been employed. It is well known that water may be heated or even boiled in much less time by steam than by fire: witness the large dying vessels that are boiled with it in the West Riding of this county. I therefore think that there may be a great saving in fuel, fire-grates, &c., by using steam for heating the water. I have no doubt that a boiler of very small power would be sufficient to boil the water of cast-iron reservoirs of the size proposed by Mr. Whale in a very few minutes. This plan was tried on a small scale by my late master, William Rawson, Esq., Halifax, six years ago. Two small houses, with lights sloping to the ground, intended for forcing figs, were built against the wall of the garden; a green-house stood in the garden, perhaps 15 yards from the wall; a small boiler, which might contain 60 gallons, was set over the fire which heated the green-house; and when the fire was not wanted for this house, a damper turned the heat round the boiler, and through the back shed. A copper pipe was laid under ground, through a case of brick containing sawdust, from the boiler to the first fig house, which contained a cistern made of stone, 6 ft. long, 2 broad, and perhaps 2 deep, which was filled with water to within 2 in. of the top. The steam-pipe entered through the stone cover of the cistern near one

end, and descended to the bottom, along which it continued for 3 ft. Part of the pipe at the bottom of the cistern was perforated, and the end was open for the steam to pass into the water; and a pipe was fixed to the level of the water, which conveyed the waste water and steam to the outside of the house. The water in the cistern was boiled by this apparatus in about 30 minutes, and retained a considerable heat for two days. This plan has also been adopted on a larger scale by my present employers, Messrs. T. and J. Backhouse. The three cisterns in three of their houses are built with brick and Roman cement, and are 24 ft. long, 1 ft. 10 in. wide, and 2 ft. 9 in. deep, and are all heated by one boiler, the flue to which is continued through the houses, and gives out a considerable quantity of heat. When these cisterns are once heated, they retain the heat for several days; but their length and depth are perhaps greater than is of advantage, as it takes three or four hours to heat each of them. The steam can be turned into one cistern at a time, by means of stopcocks in the branch pipes which convey it from the main pipe; and the main pipe lies under a trellised footpath through the houses. There is a communication, by means of pieces of lead pipe at the level of the water, between these three hot water cisterns, by which means the waste water is carried into the one nearest the cistern whence the boiler is supplied by a pump. It is conveyed into this last cistern by means of a pipe, which passes from near the top of the hot water cistern, down the side, and under ground a few feet. The pipes for carrying off the steam come through the wall to the outside, and they are found to answer best to open directly forward, for, when turned up, snow is apt to freeze upon them, and close them, when not at work. In order to secure the hot water cisterns from explosion, in case of these waste steam-pipes getting stopped, a piece of copper pipe passes through the cover of each cistern down to within a few inches of the bottom. It is probable that cisterns of sheet-iron or other metal would answer better than of stone or brick, as they would give out heat more readily, and be less difficult to keep watertight. Where the main pipes have to descend, as is the case here, it is necessary to fix a cock to the lowest part, in order to draw off the condensed water that remains in the pipes after using; but the best plan, where it can be adopted, is for the boiler to be set so low that the steam has to rise to the cisterns; consequently the condensed water from the pipes will return into the boiler.

I am, Sir, &c.

York Nursery, Dec. 4. 1827.

HENRY BAINS.

PART II.

REVIEWS.

ART. I. *Transactions of the Botanical and Horticultural Society of the Counties of Durham, Northumberland, and Newcastle upon Tyne.* Vol. I. Part I. Newcastle. 8vo, pp. 76. Not sold.

AFTER a list of officers is the report for the year ending August, 1827. The committee call the attention to the list of prizes which have been awarded "to different members of the Society, at its exhibitions, which have been, as most of the members of the Society have witnessed, of very great excellence. At the suggestion of the President for the last year, in addition to the exhibitions held in Newcastle, meetings have been held at Durham and Hexham, and one is intended to be held at Alnwick, in September, for distributing prizes for choice flowers, fruits, &c., for the convenience and encouragement of members resident in the neighbourhood of those towns.

In September, 1826, thirteen prizes were given away; in November, nine; in January, 1827, six; in March, four; in May, seven; in June, eight; and in July, ten. At a meeting held at Durham three prizes were given away; and at one at Hexham ten prizes. In September, 1827, the gold medal was awarded to Mr. Bell, gardener to G. Hutchinson, Esq., for a bunch of White Portugal grapes, weighing $5\frac{1}{2}$ lbs., grown on a plant received from Messrs. Falla and Co., nurserymen, in the spring of 1825, but not planted out till July following. Some remarkably fine Black Hamburgh grapes were produced by Colonel Shadforth of Witton-le-Wear from a freestone wall facing the south, without any artificial heat or glass whatever. A statement of accounts occupies a page (21.), and next comes

1. *On the Utility of planting Orchards in the District of the Society, &c.* By Mr. William Falla, jun.

Orchards and fruit-gardens are very much wanted in this district; there is an immense consumption of fruits, especially apples, and the supply is chiefly from abroad and from Norfolk and Suffolk. Objections relative to soil and climate may be got over by adopting the varieties of apples, pears,

cherries, and plums, more particularly adapted to this part of the country. Difficulties arising from inferior soil may always be overcome ; difficulties from unpropitious climate are to be met by those varieties whose habits and blossoms are hardier than others. All varieties that blossom late and have close blossoms are very desirable for this district. The most eligible situation is a southern declivity, well sheltered from " the cold winds of the east coast, and from the violent equinoctial gales from the west ;" but not " too near a river, as the fogs which rise from water are very prejudicial to the setting of the blossoms of fruit trees." The soil most desirable is a great depth of fresh rich loam on a sound clayey bottom.

A common error in the district has been, planting the early bearing sorts, such as the Red Streaks, Juneatings, Lemon Pippins, Leadingtons, &c., which soon become unhealthy and useless.

" It is, I believe, invariably the case, that fruit trees which produce a great deal of fruit, are comparatively shortlived ; and to this I would attribute the circumstance of several of the older Hawthornden apples in this neighbourhood becoming unhealthy, and their fruit being very liable to spot, which, no doubt, arises from the decreasing energies of the tree.

" Much has been said and written on the disease called canker in apple trees : it generally seizes old varieties and great bearers ; but the soil, and especially the subsoil, have often a great share in producing it, and some varieties have a far greater tendency to it than others, as Sir Walter Blackett's Favourite, the Royal Russet, &c. &c. Mr. Knight conceives that this disease, as well as the wearing out of the old varieties, arises from the age of the variety ; for, of course, in all cases of propagation by grafting or budding, the scion or the bud is of the same age as the original plant. Yet, as it is engrafted or budded on a vigorous seedling stock, I imagine that its growth is by this means in some degree renewed. And I think this has been clearly proved by a very ingenious experiment made by a gentleman in Herefordshire, who, having a very old Golden Pippin apple tree which was in a dying state, planted around it several young seedling crabs, and, when they had established themselves, engrafted or inarched them into the trunk of the old tree ; the consequence was, that in the course of a year or two, the old tree became nearly as healthy as ever it had been, from the vigour that was infused into it by the sap of the young crabs that had been introduced into it. [We very much wish some of our correspondents would repeat this experiment on various trees.] And yet I am strongly induced to think that the scion, in some cases at least, has a very great

effect on the stock on which it is placed, as in the case of engrafting an apple scion, or that of any of the varieties of crab on the same kind of stock. The apple will have a much more fibrous and a smaller root, while the crab will have a large, strong, wiry root, which, after standing three or four years, will be far more difficult to take up than that of the apple. There is another curious fact which it may not be amiss to mention here, and which confirms me in my opinion of the stock being affected by the scion or bud that is introduced into it. There is a blotched-leaved variety of the English laburnum, a bud even of which being inserted in the bark of the common laburnum, whether the bud lives or not, the laburnum invariably becomes blotched in its leaves like the bud. If the blotched or striped leaves of the plants arise, as I think it is generally admitted, from a disease, this may justly be considered as virulent a disorder in the vegetable world as the smallpox is in the human race, and this operation may very fairly be said to be inoculation."

Mr. Falla next gives a list of the hardier orchard fruits best adapted to his part of the country; and, as it may be very useful to the orchardists of other districts similarly situated, we shall copy the names.

Keswick Codlin.	Stagg's New Nonpareil.	Cockpit.
Manks Codlin.	Fulwood.	Yorkshire Green.
Ribston Pippin.	Kerry Pippin.	Summer Redstreak.
Flowery Town.	London Pippin.	Leadington.
Carlisle Codlin.	Hawthornden.	Wheeler's Russet.
Hebburn Red.	Nonesuch.	Gateshead Lemon Pippin.
Herefordshire Under-leaf.	Sir Walter Blacket's Favourite.	Bringewood.
Juneating.	Greenup Pippin.	Quarrenden.
Winter Red Streak.	Smith's Pippin.	Arrowsmith's Pippin.
Hunthouse.		

"Pears of any but the commoner sorts, as standards, I fear, would not have much chance of succeeding in this part. The Hassell, now generally known, is a most valuable variety as a bearer. Of cherries, the May Duke and the Morello, and the Greens, are the likeliest sorts as standard fruit, though I believe the Florence is a very productive and hardy variety. Plums, as standards, do not appear to repay the planter in this country in any situation, which, I suspect, arises from their blossoms being injured in the spring by the east winds, &c. From seeing plums do so well on limestone districts, I am strongly induced to think bone manure might be of great service to them: at any rate, the experiment is worth trying.

"In planting orchards in this country, I think it would be an excellent plan to plant the earlier bearers between the sorts

intended to be the permanent trees, and by that means crops of them would be obtained before those that are later in coming into bearing produced any. The earlier bearers could, of course, be cut out as they interfered with the others."

For this very judicious paper, the Society awarded to Mr. Falla their gold medal.

2. *On the Diseases to which Onions, Cauliflowers, Broccolis, &c., are subject.* By Mr. Thomas Smith, C.M.H.S., Gardener to Matthew Bell, Esq., Woolsington.

The same paper was published in the *Transactions of the Horticultural Society of London*, and its essence will be found in our First Volume. (p. 293.)

3. *On the Method of warming Horticultural Stoves.* By the Rev. R. H. Williamson, Newcastle.

The most valuable and original paper in this collection. The writer argues that, however reasonable it may seem to dispense with the bark-bed or other bottom heat, seeing there is no such thing as a natural hot-bed, yet that the conclusion drawn is wrong, because "plants in a hot-house are in a situation altogether different from what they would be out of doors in their native climates, particularly with regard to the state of the atmosphere in which they grow."

The following quotation includes the greater part of the paper; it is long, but we fear that to abridge it would lessen its value to young gardeners unaccustomed to a very condensed form of reasoning: —

"Air is an elastic fluid, which expands by heat; therefore, all particles of it, as they become warm, unless they meet with some external impediment, will ascend till they reach a stratum of similar density to themselves: the heat will consequently always be greatest at the radiating or reflecting surface. Hence, the earth at any given place, unless cooled by evaporation or some accidental cause, will be warmer than the air immediately above it; and this, again, will be warmer than portions of the atmosphere more remote. This is very sensibly felt in places at any considerable variation of altitude. Now, although for all horticultural purposes, owing to the comparatively small height of any vegetable production, the temperature at the same time and place may be considered as uniform, still the lower parts of the plants are, if any thing, rather in the warmer medium. Moreover, in tropical climates, the earth, from the great power of the sun's rays, and their continued action, becomes heated to a considerable depth. Now, in all horticultural stoves, the heat will be found to vary

by a law exactly the reverse of this which obtains in nature. Here the heated particles being intercepted in their ascent, and confined by the glass roof, the top of the house, as practical men know well to be the case, will always be warmest, and the temperature will rapidly decrease towards the bottom, and nearly in a ratio proportionate to the degree of heat maintained; hence the necessity for a permanent source of heat at the bottom, not to keep the root warmer than the rest of the plant, but merely to obviate its being in a colder situation. A mild bottom heat, accordingly, is always found in practice to succeed best. For the same reason, unless the plants are kept very near the glass, a great circulation of fresh air, and consequent waste of heat, is generally found necessary; as, unless the heated air at the top were thus suffered to escape, the leaves and extremities of the plants, being attracted by the warmer medium above them, would grow towards it faster than the lower parts could supply nourishment, and thus would become what gardeners term drawn. The necessity for change of air, except in reference to temperature and moisture, cannot well be accounted for on any other principle, as I believe it has been satisfactorily ascertained that vegetable life does not destroy the vital properties of air in the manner that animal life does, but that, although the air is much altered by it at one period of the day, it is restored to its former state in another, and, on the whole, no material change is permanently produced. Mr. Knight, the scientific president of the London Horticultural Society, condemning the bark-bed, except for the purpose of striking young plants, has had a house constructed for the purpose of growing stove plants without bottom heat, and from time to time has given a detail of his proceedings and the results (which have generally proved favourable) at the meetings of the Society. In one of his papers he states, that the pine plants which stood on the hottest part of the flues, immediately above where the fire entered, grew stronger and more luxuriantly than the rest. This is exactly as might have been expected, for the plants standing above the source of heat would have the benefit of first receiving the heated particles of air in their ascent, and consequently would be in a situation more congenial to nature than those in other parts of the stove, where their leaves would be in a warmer stratum of air than their stems and roots; though this was also diminished as much as possible, by always keeping the plants in contact with the glass, which was effected by placing the pots on pedestals of loose bricks. The dispensing of bottom heat is a subject peculiarly deserving the attention of the horticulturists of this part of the

country, where the cheapness of fuel leaves the hot-bed much the more expensive department of a stove. From the result of an experiment I made after Mr. Knight's suggestions, the details of which I have given in an annexed paper, I have little doubt it might be advantageously adopted; but, in the construction of a house for this purpose, the circumstance, that the heat under glass increases with the distance from the ground, should always be kept in view. Possibly, if any method could be found of agitating, or, as it were, mixing the enclosed air, it might counteract this tendency to an undue accumulation of heat above the plants. The flue, probably, had best be made to traverse the house several times at a level below the pots, but on no account must it be piled up against the back wall; which, in all cases, is evidently an injudicious construction, throwing additional heat into a part of the house, which, without it, has a tendency to exceed the rest in temperature. Every part below the pots might be advantageously painted black, to absorb and retain the heat below as much as possible. The pots, of course, should be larger than those used at present, as the roots must be confined to them, and derive all their nourishment from what they contain, no longer having the bark-bed to shoot into when they have filled the pots; and as, without bottom heat, the plants receive a great check, and are much retarded in their progress by being shifted, they had probably best, as soon as well rooted in a hot-bed, be at once removed into these large pots, and from time to time earthed up as they increase in size, three or four inches of the top being at first left empty for this purpose. Water will also be most copiously required, as the power of evaporation in so high a temperature will be very great when the pots are totally exposed, as they will be in this case; for it can never be desirable, upon the above-mentioned principle, to plunge them in sawdust, as has been proposed, or in any other substance that is not itself a source of heat, or, in other words, a hot-bed.

“I have thrown together these hints in hopes they may be the means of calling the attention of other members of our Society to the same subject. The system seems more adapted to, and more likely to prove advantageous in, this country, where coals are abundant, than in situations less favoured in that respect. I am not by any means so sanguine as its projectors, in supposing the culture will be thereby improved in point of produce; my utmost expectations being, that equal success may be obtained at considerably less expense.”

4. *Detail of a Trial to grow the Pine-apple without Bottom Heat.*
By the Rev. R. H. Williamson, Newcastle.

Six small pine plants were, on March 2., shifted into very large pots; two into middle-sized, and two into such as would barely admit fresh earth about the balls. One of each of these was placed on the back flue, on inverted pots, so as to stand near the glass. The other three were placed on the hottest part of the flue, also near the glass. About midsummer, those in the smallest pots were shifted, and, at the end of March twelvemonths, they and those in the middle-sized pots were shifted again; the plants in large pots being merely earthed up. The plants on the back flue never did any good; that in the large pot grew rapidly to a large size, was earthed up in the August of the second year, and ripened a large, well-flavoured fruit in the January following. The remaining two plants were shifted in September, and were, at the time the paper was written, perfectly healthy, but not quite so strong as those of the same age in the bark-bed. The experiment was made in an old ruinous house, and, the experimenter observes, should be repeated under more favourable circumstances, in order to ascertain what may be done with fire heat without the aid of tan, dung, or leaves.

Our opinion, derived from observation, and from hearing the remarks of the most skilful and experienced pine growers, is, that no good will ever be done by fire heat applied in the mode, either of Mr. Williamson, or of Mr. Knight. Something may be effected by applying fire heat in a vault, or under a mass of masonry covered with sand, ashes, or leaves; but this can seldom be worth while now that the system of heating by hot water is becoming so general. This system will, probably, in the end, render Newcastle, and the other coal districts, the chief sources for supplying London, Paris, and the great towns and cities of Europe with forced fruits and vegetables, and with pine-apples, and other tropical fruits. It is in the order of things, that those productions, the chief cost of which is heat, should, where heat is cheapest, be produced in the greatest abundance, and at least expense. New and unforeseen applications of steam may convey these productions to the most remote parts of Europe, uninjured either by the mode of conveyance, or the time occupied.

(*To be continued.*)

ART. II. 1. *On conducting Air by forced Ventilation, and regulating the Temperature in Dwellings, with a Description of the Application of the Principles as established in Covent Garden Theatre, and Lloyd's Subscription Rooms; and a short Account of different Patent Apparatus for warming and cooling Air and Liquids. The whole illustrated with Copperplate Engravings. By the Marquis de Chabannes, Author of "Lettres de M. le Marquis de Chabannes à S. Exc. M. le Comte de Blacas, suivies de quelques éclaircissemens et extraites de Mémoires relatifs aux événemens présens. Londres, 1816."* London. Pamph. 8vo. 1818.

2. *Appendix to the Marquis de Chabannes' Publication on conducting Air by forced Ventilation, and equalising the Temperature of Dwellings; published in 1818. Being a Continuation of the Description of the Patent Apparatus for warming and cooling Air and Liquids; and containing an Account of the new Water Calorifere, and other Apparatus: and also of the Manner in which the following Places have been warmed and ventilated this Year; viz. the House of Commons, the Hospital in the Marylebone Fields adjoining the Regent's Park established by Order of Government for the Cure of Diseases of the Eye, the Hospital for Insane Patients of the Army Fort Clarence Chatham, and the Olympic Theatre. Illustrated with Copperplate Engravings. By the Marquis de Chabannes. London. Pamph. 8vo. Without date, and not paged.*

We have given these titles, in order that such of our readers as are interested in the subject may refer to them; and, for the sake of showing the author's ideas on the application of the mode of heating by hot water to hot-houses and hot-beds, we shall select Plate XIII. (*figs. 26—30.*) with its description, and give them without comment.

Fig. 1. (*fig. 26.*) Section of a hot-house, with flues now in use, and to which is adapted the calorifère fumivore fire-place (*a*), [in lieu of the present fire.

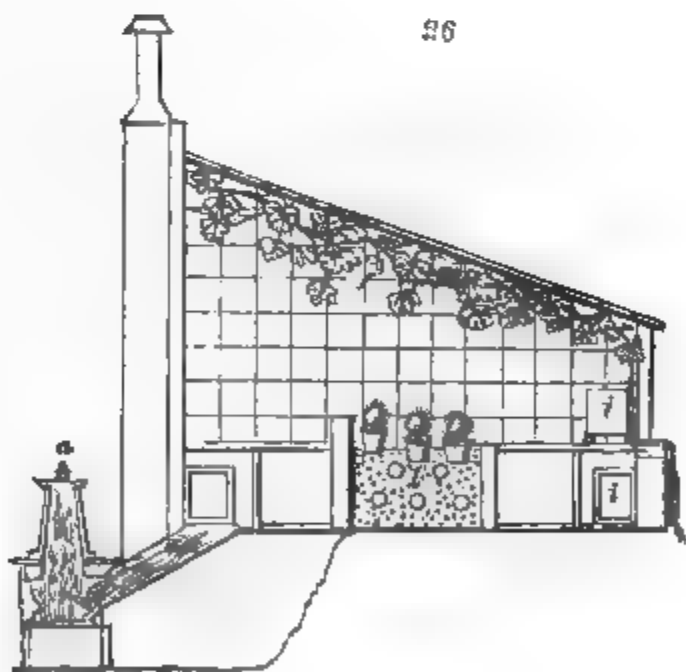
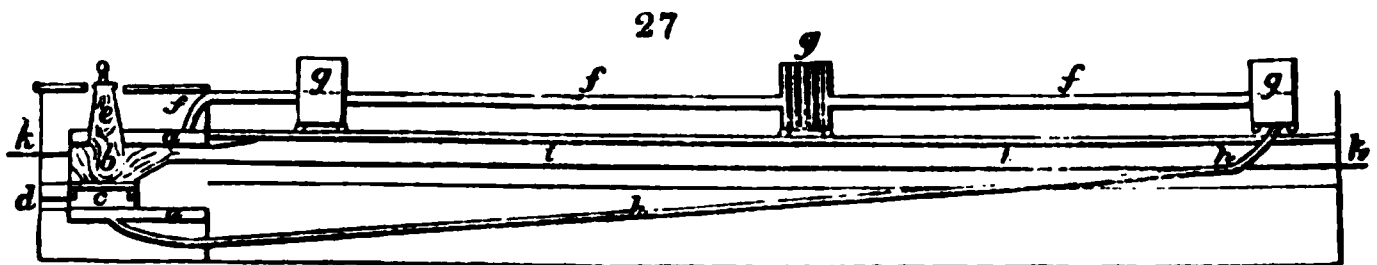


Fig. 2. (*fig. 27.*) Section of the flue in the same hot-house, with the same calorifère fumivore fire-place, and a small patent boiler adapted to it.



- a*, Boiler. *b*, Fire-place.
c, Ash-pit, and admitting air to the fire by the door *d*.
e, Pyramid for supplying coal.
f, Pipe conveying the hot water into the patent cylinders *g*, which are placed on the top of the flue, or in any other convenient place.
g, Patent cylinders traversed by air-pipes.
h, Pipe communicating from the last cylinder to the lower part of the boiler *a*, and promoting the circulation of water by its pressure on the rarefied pipe *f*.
i, Old flue, to which the fire-place and boiler are adapted, and evaporating [?] the smoke.
k, Level of the floor of the hot-house.

Fig. 3. (*fig. 28.*) Plan of a flue described in Fig. 2. (*fig. 27.*)

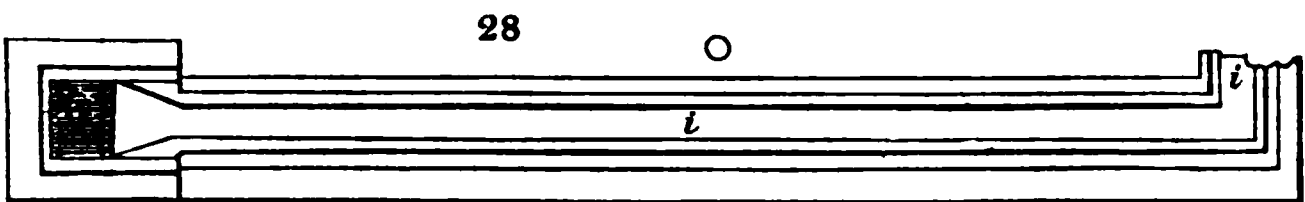
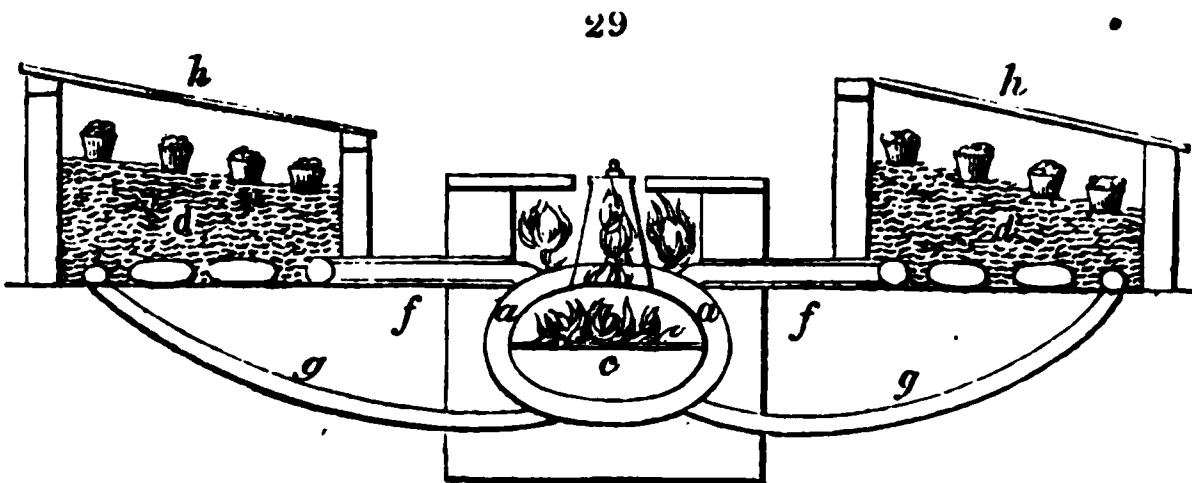


Fig. 4. (*fig. 29.*) Section of patent calorifère fumivore fire-place and boiler adapted to two or more hot-beds.

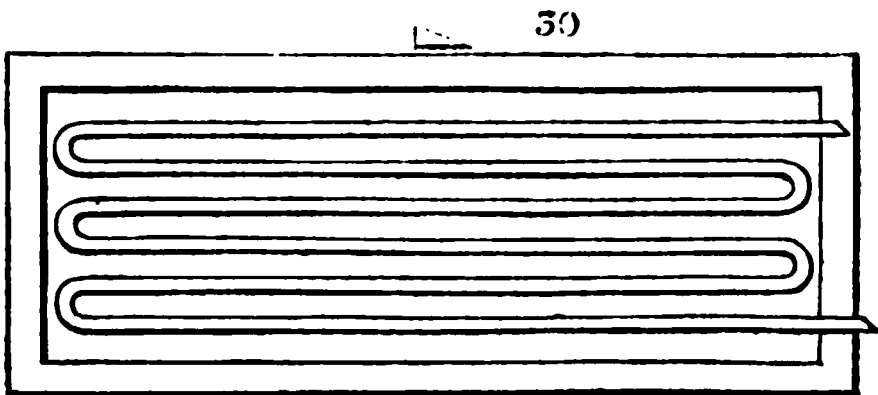


- a*, Boiler. *b*, Fire-place. *c*, Ash-pit.
e, The pyramid for supplying coal.
f, The heated water passing out of the boiler, and circulating underneath the hot-bed in the form of a worm, as seen in Fig. 5. (*fig. 30.*), and returning by the pipe *g* to the lower part of the boiler *a*, and promoting the circulation of water by its pressure on the more rarefied parts, going off by the pipes *ff*.
h h, Section of two hot-beds warmed from one fire, in which is seen the ends of the worms *d d*.

Fig. 5. (*fig. 30.*) Plan of circulation of water in a hot-bed.

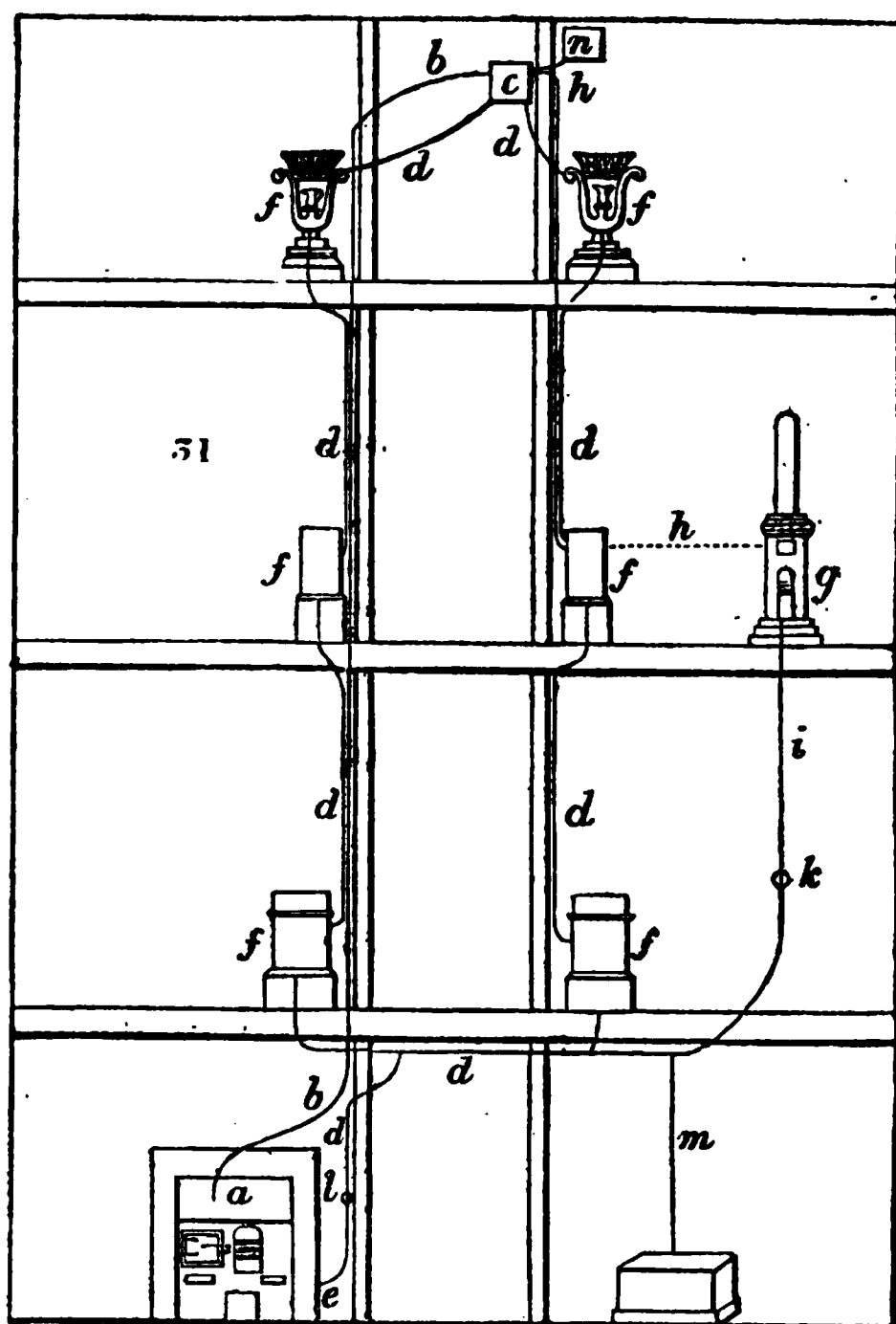
The above is from the first pamphlet; the following, respecting the circulation of hot water in Nos. 36. and 37. Burlington Arcade,

is from the other, which is without date, and not paged: —



Explanation of the Plate. (fig. 31.)

- a*, Kitchen fire-place, with a boiler behind the grate.
b, Pipe by which the hot water ascends into the parlour floor (*d*), and continues from thence to the upper cistern (*c*).
c, Extremity of the returning pipe, by which the cooled water returns to the bottom of the boiler.
f, Vases of hot water in the three floors, supplied by descending pipes from the upper cistern (*c*).
g, A stove, from which hot water may be made either to ascend or descend by the pipes (*h*) or (*i*).
k, Stopcocks.
m, Pipe for supplying a bath.
n, Supply-cistern of cold water to the whole.



Having been informed by several correspondents, that the mode of heating by hot water had long been practised by Messrs. Boulton and Watt, we wrote to these gentlemen, and the following is an extract from their answer. It deserves attention, not merely on account of the singular fact of their having practised this mode of heating for “upwards of fifty years,” but because it contains some very judicious observations on the mode itself. Coming from such eminent engineers, the observations will have their due weight with our readers.

“We may briefly observe that the attention of this firm has been directed to the employment of steam and hot water as media for the transmission of heat upwards of fifty years, and they have been used by us, with that view, under almost every modification, in the warming of rooms for all the various operations of manufactories, for habitations, for the heating of baths, vats, and various other purposes. Preference was given to the one or other according to the circumstances under which the application of heat was required, steam being naturally preferred for the more rapid diffusion of a high temperature, and water substituted when the heating of that liquid to a low temperature, or the steady maintenance of such a temper-

ature in a room, were the objects to be attained. The application of these principles to the warming of hot-houses has not attracted much of our attention, not possessing ourselves any house of that description, but the adoption in them of modes of heating practised in other buildings, where analogous desiderata were attained, must, we conceive, be a natural consequence of the diffusion of the practice.

“ Whenever the horticulturist determined it to be a primary consideration in the heating of the hot-house, to preserve with the least fluctuation any given degree of atmospheric temperature, the advantage of employing water in preference to steam, for the attainment of that end, was obvious, and could not fail to present itself to any mind conversant with its use for that purpose. The practicable attainment of it could not be attended with difficulty, as it had long been effected under analogous circumstances.

“ *Soho, March 18. 1828.*”

ART. III. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., published since February last, with some Account of those considered the most interesting.*

BRITAIN.

Curtis's Botanical Magazine, or Flower-Garden displayed; New Series. Edited by Dr. Hooker. In 8vo Numbers, monthly. 3s. 6d. col.; 3s. plain.

No. XV. for March, contains

2805 to 2811. — *Calceolària plantagínea*, Plantain-leaved Slipperwort. An herbaceous plant from Chile; the leaves in tufts on the ground, the flower-stems 10 in. high, and the flowers yellow and nearly hemispherical. Flowered in the stove of the Glasgow botanic garden, for the first time, in August, 1827. — *Maxillària (maxilla, jaw-bone; nectary) pallidiflòra*; Orchideæ. From St. Vincent, by the Rev. Lansdown Guilding, to the Glasgow botanic garden, where it flowers in the stove in September. A tufted plant, with yellow flowers of no great show. — *Grevíllea* (R. K. Greville, Esq. LL.D., one of our first botanists) *acanthifolia*. (*fig. 32.*) A plant of singular beauty, originally raised in 1824, by Mr. Lee of Hammersmith, from New Holland seeds received from Mr. Allen Cunningham, who gathered them from peaty bogs on the Blue Mountains and banks of Cox's River, during Mr. Oxley's first expedition into the interior, in 1817. — *Lòtus microphýllus*. A graceful little plant from His Danish Majesty's collector at the Cape of Good Hope, to Professor Hornemann at Copenhagen. Greenhouse; July. — *Penæ'a imbricatà*. An erect evergreen shrub, with numerous branches, closely covered with sessile, rhomboid ovate leaves, imbricated towards the flowers, which are rose-coloured. From Cape of Good Hope seeds, to the royal botanic garden of



Edinburgh, by C. T. Aiton, Esq. — *Córchorus* (*korē*, the pupil of the eye, *koreō*, to purge; supposed qualities) *olitōrius*, Potherb Jew's Mallow. A plant of no beauty, but interesting from its extensive culture in Egypt, Syria, and other parts of the East, as a potherb. "In Egypt, Forskal tells us, it is abundantly planted in gardens, and is called *Melòkych* by the Arabs. Olivier says the Egyptians eat the leaves during the whole summer, in ragouts, or simply boiled, drained, and seasoned with olive oil; and, in India, it is equally employed as an article of food. It is, besides, said to possess slight medicinal qualities, to be emollient, a sweetener, and a pectoral." The plant is said to grow spontaneously in Asia, Africa, and America, and was introduced into our gardens, according to Parkinson, in 1640. — *Salpiglóssis* (*salpigx*, trumpet, *glōssa*, tongue; the style) *atropurpurea*; *Bignoniaceæ*? (*Solaneæ*, *Sweet.*) A branching, herbaceous stem, with scattered leaves of various shapes and sizes, from ovate and notched to linear and entire, and purple flowers. From the Cordilleras, in 1826, to Patrick Neill, Esq., in whose garden at Cannon Mills, near Edinburgh, it first flowered in September, 1826. Stove, and the easiest culture; but its duration is not mentioned.

Edwards's Botanical Register. Continued by John Lindley, F.R.S. L.S. &c.
In 8vo Numbers, monthly. 4s. coloured.

No. I. of vol. XIV. contains

1131 to 1137. — *Renanthèra* (*ren*, a kidney, *anthera*, anther) *coccínea*; *Orchídeæ Vándææ*. Little beyond the reports of Chinese travellers has hitherto been known of "this truly magnificent plant, the beauty of whose deep scarlet and yellow blossoms surpasses every thing known in the vegetable world. That the Chinese suspend in baskets from the ceilings of their rooms several of the tribe of plants to which this belongs, some for the sake of their fine flowers, and some on account of their delightful fragrance, is familiar to every one. Many, if not all of this description, have been introduced from time to time; and a few have flowered with us. Among those which bid defiance to the skill of the cultivator, has long been recognised a species, introduced some time previous to 1817, with long leafy stems sometimes attaining the height of 8 or 10 ft., and fleshy veinless leaves; it is frequently imported from China, and is now to be found in almost every collection of which epiphytical *Orchídeæ* form a part, attaching itself by means of its long tortuous roots to a damp wall, columns, or other bodies placed as its support. This is *Renanthèra coccínea*." — This plant, it appears, has hitherto been cultivated in too dry an atmosphere. Mr. Fairburn, the skilful gardener to Prince Leopold, at Claremont, impressed with this opinion, enveloped the stems in moss, and kept it constantly damp, exposed as much as possible to the influence of the sun. In consequence of this, the plant flowered in October last, producing a many-flowered lateral panicle, 2½ ft. long, of the most brilliant scarlet, mixed with yellow. In Cochin-China it is found climbing over trees. In this country it is propagated without difficulty by cuttings, and may be grown in wet moss in the stove, and when in flower removed to a dwelling-room, where the blossoms will remain in perfection for many weeks. — *Pentstèmon dif-fusum*; *Scrophularíneæ*. A beautiful hardy perennial, with evergreen leaves, and decumbent rooting stems, by which it is readily increased. A native of open grounds and banks of streams in the districts round the mouth of the Colombia River, where it was found in abundance by Mr. Douglas. "Grows freely either in common light garden soil, or in the American borders, in both which situations it flowers in the utmost profusion from June, till its growth is arrested by frost." — *Bauhínia cumanáensis*; *Leguminòsæ Cæsalpíneæ*. A tender twining stove plant, with handsome foliage and inconspicuous flowers. A native of shady woods in Cumana, and other parts of equinoctial America. From Rio Janeiro to the garden of the Comte de Vandes at Bayswater, where it flowered under the care of

Mr. Campbell, in July last. — *Sinningia villòsa*; Gesneriæ. A fine stove plant, flowering abundantly during all the summer, and growing freely in peat and loam. The flowers are of a pale or yellow green; the whole plant is succulent, and requires a high temperature, and much atmospheric moisture. It is readily propagated by cuttings or by leaves. From Brazil, by Henry Chamberlayne, Esq., to the Horticultural Society, in 1826. — *Prunus cándicans*; Rosæ Drupææ. A fine hardy shrub, of 5 or 6 ft. in height, from Messrs. Baumann, of the Bollwiller nursery in France, to the Horticultural Society, in 1825. Its native country is unknown. A “valuable addition to the hardy shrubs of our country: it is quite hardy, easily cultivated, and in the spring is so laden with white blossoms, as to seem a mass of snow, amidst the green leaves and rosy flowers of the season.” — *Castillèia coccínea*, *Crimson-leaved Castilleia*. A pretty, hardy annual, from gravelly upland meadows about the river Colombia, by Mr. Douglas, to the Horticultural Society in 1826, in whose garden it flowered in July and August, 1827. The most conspicuous part of the flower is the bractæas, which are vermilion-coloured, varying to a lively yellow, and even to white. “Increased by seeds, which are produced in small quantities. It should be grown in gravel, or peat and sand, and not in loamy soil.” — *Crotalaria verrucòsa*; Leguminosæ Loteæ. A tender stove annual, from the East Indies, with purple flowers, and varying extremely in the size and form of its leaves. Introduced in 1731, and of the easiest culture.

Botanical Cabinet. By Messrs. Loddiges. In 4to and 8vo Parts, monthly. Large paper, 5s.; small paper, and partially coloured, 2s. 6d.

Part CXXXI. for March, contains

1301 to 1310. — *Pòthos Harrisii*. From Rio Janeiro to the Edinburgh botanic garden, in 1824, by Mr. Harris, its discoverer, and in honour of whom its specific name was given by Dr. Graham. Stove; loam and peat. — *Callistemon lophanthum*. A handsome shrub from New South Wales. — *Erica Eweràna*. Tube-flowered. “Like most of this extensive family, the flowers are exceedingly beautiful, and the whole plant formed to please and delight the mind.” — *A'rabis petræa hastulàta*. A little tuft of notched leaves, well adapted for pots, but rather difficult to keep. It is a native of the north of Europe, and grows on rocks, between 2 in. and 3 in. high. — *Didymocarpus* (*didymos*, double, *karpos*, pod) Réxii. A dwarf herbaceous plant, about the size of a primrose, with purple flowers in autumn, seeding freely, and of easy culture in sandy loam. — *Aràlia hispida*. A low shrub, from the woods of Canada. — *Mesembryanthemum linguæfórme*. — *Fontanèsia phylliræoides*. A native shrub of Syria, but perfectly hardy in this country. — *Hóya pállida*. — *Eriocaúlon decangulàre*. From swamps in New Jersey and Carolina.

The British Flower-Garden. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s.

No. LXI. for March, contains

Amórpha fràgrans; Leguminosæ Pap. Loteæ Galègeæ. A strong, upright, deciduous shrub, with pinnate leaves and dark purple flowers, delightfully scented. From North America; quite hardy; and of the easiest culture. — *Argemòne ochroleùca*; Papaverææ. A very handsome half-hardy annual, from Mexico to the garden of Robert Barclay, Esq. of Bury Hill. — *Cunila mariàna*; Labiætæ. A handsome perennial, from mountainous situations in North America; of easy culture. — *Galèga pérsica*; Leguminosæ Pap. Loteæ Galègeæ. A vigorous-growing plant, with white flowers; raised in the Chelsea garden from seeds received from France.

34 *Flora Australásica.*—*Cistínea.*—*Botanic Garden, &c.*

Flora Australásica. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly.
3s. coloured; 2s. plain.

No. X. for March, contains

37 to 40. — *Pultenæ's polygalifolia*; Leguminosæ Papil. *Sophoræ*. A branching erect shrub, with brown rusty bark and short linear leaves, a free grower and abundant flowerer. — *Grevillea macronulata* (fig. 33.); Proteaceæ. A small compact densely bushy evergreen shrub, with flowers of a greenish white. Easily propagated by ripened cuttings. We have figured this species in order that the general reader, or the young botanist, may compare it with our figure of *G. acanthifolia* (p. 31.) by which he will see the family or generic likeness contained in the flowers, and the specific difference of the leaves. A collection of all the species (above twenty) of so singular a genus is well worth attempting. — *Patersonia longiscapa*; Iridææ. A tufted perennial herbaceous plant, with linear leaves and blue flowers; free growing, and nearly hardy. — *Chorizema* (*choris*, a dance, *xēmia*, a punishment or injury; the leaves of the species known to Labillardiere, the discoverer, who gave the name, being spiny, which would occasion pain or inconvenience to the naked-footed dancers of the south-west coast of New Holland) rhómbea; Leguminosæ Pap. *Sophoræ*. A small suffruticose plant, very much branched, with variable hairy leaves and orange-coloured flowers. Sandy soil, an airy situation in the green-house, and propagation by seeds.

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Geraniaceæ. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s.

No. XCIX for March, contains

Pelargonium Gurneyanum; *Pelargonium Avronianum*; *Dimæria auriculata*; and *Pelargonium multiflorum*.

Cistínea. By Robert Sweet, F.L.S. &c. In 8vo Numbers, every alternate Month. 3s.

No. XVII. for March, contains

65 to 68. — *Heliánthemum rugosum*. A shrubby stem, a little flexuose and much branched, narrow variable leaves, and golden yellow petals with a dark brown spot near the base, and of easy culture in the frame or green-house. — *Heliánthemum cupreum*. A suffruticose stem procumbent and branching in all directions, leaves narrow, and the petals of a dark copper colour. A fine plant for rockwork, or for small pots. — *Cistus oblongifolius*. A large upright strong-growing shrub, with straightish stiff branches, and large white flowers; perfectly hardy. — *Heliánthemum procumbens*. Suffruticose, procumbent, linear leaves, and bright yellow petals.

The Botanic Garden. By B. Maund. In small 4to Numbers, monthly.

Large paper, 1s. 6d.; small paper, 1s.

No. XXXIX. for March, contains

Spiræa trifoliata, *Phyteuma orbiculare*, *Bupthalmum grandiflorum*, and *Primula cortusoides*.

The Florist's Guide and Cultivator's Directory, &c. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s. coloured; 2s. plain.

No. IX. for March, contains

35 to 36. — Davey's Roi de Pourpre Pink; Gawin Douglas Ranunculus, of Paisley origin; Daveyana Tulip; and Pardoe's Ace of Trumps Carnation.

Medical Botany, &c. By John Stevenson, M.D., and James Morss Churchill, Esq., Surgeon. In 8vo Numbers, monthly. 3s. 6d.

No. XV. for March, contains

Punica Granatum, the Pomegranate, the juice of the fruit of which is astringent, and of the bark still more so. — *Artemisia absinthium*, Common Wormwood; extensively cultivated for medical use, as a stomachic. — *Artemisia Santonica*, *Abrótanum*, and *marítimum*; sometimes used like the first species. — *Càrum Càrui*, Caraway. An umbelliferous perennial of the north of Europe, much cultivated in Essex, especially at Mersea Island, for the seeds, which yield an essential oil, stimulant and carminative, and often used to cover the taste of other medicines. — *Convólvulus Scam-mònia*. A native of Turkey, Persia, and Cochín-China, and the roots employed as a drastic purgative since the days of Hippocrates. It is chiefly imported from Aleppo and Smyrna.

The Pomological Magazine. In 8vo Numbers, monthly. 5s. coloured; 3s. 6d. plain.

No. V. for March, contains

17. *The Red Ingestrie Apple.* This and the Yellow Ingestrie were raised from two seeds taken from the same cell of an orange pippin, by Mr. Knight, about 1800. It is an excellent table apple, ripens in October, bears abundantly either as a dwarf or standard, but is not very good after having been gathered a few weeks.

18. *The Common Muscadine Grape.* One of the commonest and oldest of our grapes, and, for the purposes of the English wine-maker, better adapted than any other white variety. In most seasons it ripens in the open air, generally about the middle of September; and the bunches will hang on the vine, if the season be favourable, to the beginning or middle of November. The Chasselas de Fontainebleau differs from the common Muscadine in having the under surface of the leaves downy.

19. *The Beurré Diel Pear.* Raised by Dr. van Mons at Louvaine, and by him named in honour of Dr. A. F. A. Diel, one of the most distinguished of the German pomologists. "Its great merit, independently of its excellence, is its fertility, both when trained on a wall and as a standard. Ripens in the end of November, and keeps till the beginning of January. The tree is a free grower, and attains a considerable size, and its fruit is of the first rank among dessert pears."

20. *Black Roseberry Strawberry.* Singular in appearance, and peculiar in its character and flavour; a tolerable bearer, ripening about the middle of the season of the Scarlets, to which class it belongs. Any good garden soil, well exposed to the sun.

Fleming's British Farmer's Magazine, exclusively devoted to Agriculture and Rural Affairs. In 8vo Numbers, quarterly. 4s.

No. VI. for February, contains

1. *Original Communications.* — Smithfield Cattle Show; which, it is hoped, will improve under the auspices of Lord Althorp. — The present State of Agriculture in Ireland; absenteeism, *sub-squires*, or *squireens*, and the underletting system, the great obstacles to improvement. — On Smut in Grain, by John Lawson, jun., of Elgin; in which, as a preventive, it is recommended not to bury the seed at from two and a half to three or more inches below the surface of the ground, as is generally done, but to deposit it equally and within half an inch of the surface. The theory of Mr. Lawson is, that smut is produced by over-luxuriance; and, as grain deposited at the depth of three inches has two sets of roots, one from the grain below, and another from the joints of the stem on the surface, it must, he says, grow much more luxuriantly than grain which, being depo-

sited within half an inch of the surface, can only have surface roots. Washing and pickling the seeds of grain is said to prevent the smut, by diminishing a part of their vegetative power. *Baulking*, in ploughing, has the effect of producing smut, by leaving deep hollows in the soil, into which the seed falls. Lime, when applied to a clayey soil, prevents the smut, by pulverising the surface, and preventing the seed from being buried too deep. Drilling will tend greatly to prevent smut, by depositing the seed at an equal depth. The whole, in our opinion, a most erroneous theory, and one which could only be formed by a person having very little practical knowledge of plants and agriculture. — On the In-and-In System of Breeding, in which the practices of different agriculturists are adduced. — Agricultural Notes made in a Tour through France and Italy. [This letter is by a friend of ours now in Naples.] — On the Turnip-fly or Beetle, which is stated to be two species of the Coleóptera, viz., 1st. The *Chrysomèla nemòrum*, black, with a yellow longitudinal line on each shell; length, one tenth of an inch; anténnae, or horns, knotted, enlarging towards the ends; legs six, the two hinder ones, with which they skip, stronger. 2d, The *Chrysomèla nìgra*, “always seen in company with the first, but not so numerous; it is all black, rather smaller than the other, and of similar habits.” These insects appear both in gardens and fields, early in spring, on cruciferous plants; and sometimes, though less frequently, on the tender leaves of barley. Like other insects of the beetle kind, they are hatched and nourished under the surface of the earth; though, from their diminutive size, very little is known about them. After enumerating the various methods which have been recommended for destroying these insects, it is acknowledged that the most intelligent practical men have no dependence on any thing but superior preparation of the soil, suitable manure, humidity, natural or artificial, drilling on raised ridgelets containing dung, and abundance of seed. — On the Corn Law of 1822, &c. — On planting Forest Trees, by Mr. William Thorn, jun., who was unsuccessful in heading down newly planted oaks, apparently because he performed the operation one year too soon. — On the Use of Bones as a Manure; in which the writer recommends them for all manner of soils, whether under pasture or tillage.

On the Diseases of Wheat, by our valuable correspondent J. M. This is a well written paper, in which the subject is judiciously treated. The care which has been taken, from the earliest period, to free wheat intended for sowing, from other seeds, is reasonably conjectured to have given rise to the practice of brining and liming. Brine was mixed with water, in order to increase the weight of the fluid, and thereby allow none but the heaviest seeds to sink. Salt was used for the same purpose, and the weight or strength of the water was tested by a floating egg. To allow the seeds thus purified to be sown without inconvenient delay, it was dried with powdered lime. Brine, salt, and lime, originally applied for these purposes, are now continued for the additional object of preventing smut and mildew; but whether the object is in any degree attained by the practice, is considered very doubtful. The circumstances connected with smut are stated to be these: —

“It is never so prevalent in a highly cultivated crop, as in those on inferior land and under an inferior system of management; nor on the richest portions of a field, as on the poorest. In some seasons, little or no smut is to be met with anywhere, in others it is general; hence the common observations, ‘a smutty year,’ and ‘a non-smutty year.’ Several ears shall rise from the same seed or root; one shall be smutty, the other not; part of one ear shall be diseased, and the other part healthy: sometimes one grain only of a smutty ear shall be found sound. If a field be declivous, the upper headland, having a thinner staple, is very often seen to produce smut; and if a headland be imperfectly ploughed, as sometimes happens

from the roots of hedge-row trees running across it, this will carry more smut than the open parts of the field. In a season when smut prevails, if one field has been sown with seed procured from a distance, or with a new sort, this will be less liable than the surrounding fields. Smutty ears are affected before they issue from the last leaf; because, as soon as they are visible, their imperfect formation shows the presence of the disease; and, if then examined, the kernel is of a livid green colour, and the milk corrupted and black." [We hope these facts will be duly considered by Mr. Lawson, and we should like to see how he reconciles his theory of "over-luxuriance" with them.]

The cause of these appearances is involved in mystery; insects, fungi, and an infectious disease have been assigned, but nothing certain has been determined. The recent idea of Mr. Lawson, that "luxuriance" is a cause, J. M. evidently does not agree with; but in that spirit of liberality and good feeling, which should always be present in discussions of this sort, he concludes:—"Having stated the circumstances under which smut appears in our fields, and also the various opinions as to its cause, it is unnecessary to combat any particular hypothesis concerning it, not only because much uncertainty exists on the subject, but because the field of investigation should be left free, and invitingly open to every contributor of opinion, and to every effort of practical observation; for the use of your young readers, however, it may be necessary to add a very short inference, viz. That those who fancy that insects are the cause, or that the attack, whether of these or of a fungus, takes place when the plant is in its middle stage of growth, must see the futility of any preparation of the seed as a preventive; and, to be consistent, must discard the practice of brining and liming as useless."

The red gum is not, strictly speaking, a disease, but the attack of an insect, probably a minute species of *Musca*. The eggs are deposited in the ears when in flower, are hatched there into small maggots, which appear environed with a yellowish red unctuous powder, thus preventing the grain from being fully matured.

The rubigo, rust, mildew, and blight are the same thing. "It is in fact nothing less or more than the attack of a parasitical plant of the mushroom species," under favourable atmospherical circumstances. It is without cure.

The white blight is a partial failure in corn crops, distinguished by paleness in the straw, and diminutive shrivelled grain. It does not appear to be caused by either animals or vegetables, and is without cure. It may be asked, J. M. concludes, if brining and liming are to be continued, with reference to these diseases, seeing it is very doubtful if they are of any use. He answers, "Yes, by all means;" for though the scientific man and the practitioner may be alike puzzled to give a reason for the practice, yet "something is due to the general sense of agriculturists, especially in a custom of so long standing."

Description of a Machine for washing Potatoes, by John Lawson, jun. of Elgin. This operation is generally performed by an open cylinder turned round in a cistern of water. Mr. Lawson employs a wooden or iron trough with a movable bottom above the other one, composed of spars three quarters of an inch apart. This bottom being in its place, the potatoes are laid over it, water admitted at one end by a cock, the potatoes moved backwards and forwards by a wooden hoe till they are clean, and the dirty water then let off by another cock at the opposite end. The use of the sparred bottom is to allow the sand and earth to fall through them, and be run off with the dirty water. The rest is obvious.

The Highland Society's Agricultural Show. Messrs. Cormack, Son, and Sinclair, New Cross; Messrs. Gibbs and Co., Piccadilly; and Messrs. Peter Lawson and Son, Edinburgh, received honorary medals for collections of

seeds, particularly grass seeds. Premiums were also given for large roots of mangold wurtzel (which the writer of this and similar reports persists in spelling *mangel*, want, instead of *mangold*, the German word for beet), turnip, potato, &c. "Mr. Dale, of Libberton, produced some fine roots of yellow turnips, obtained by growing Swedish turnip and White Globe turnip together when in bloom. Mr. Dale's exertions in this department are highly meritorious, and have, to a certain extent, been successful. It is, however, doubtful if the specimens he exhibited will stand firm by reproduction from seed." — An elegant safety coach, carrying the luggage beneath, was exhibited by Mr. Croull, of Leith Walk; a variety of useful implements, by Mr. Morton, of the same place; Mr. Kirkwood exhibited his improved plough, and Mr. Finlayson his highly valuable self-cleaning harrow and grubber.

Reclaiming Moor Land, by our esteemed correspondent, J. C. Stuart Men-teath, Esq. Pare and burn the heath-covered surface in summer, plough it the following autumn, lime the succeeding spring, and sow Yorkshire fog grass, *Hólcus lanàtus*, in July without corn.—Biography of the late Dr. Parry, from which it appears that the doctor "took particular delight in horticulture; and very voluminous MSS., which are still preserved, indicate the minute attention he paid to the varieties and improvement of fruit trees, and to every other subject connected with the cultivation and management of a garden." —Notice respecting the Winter or Swiss Bean. This lately acquired variety of horse-bean may be sown from the 15th of September to the middle of October; it stands the winter's frost without injury, pods about the 1st of June, ripens the latter end of July, and thus by its earliness escapes from insects and mildew. For warm districts it would seem to be an acquisition. The private farmers, bailiffs, or agronomes of gentlemen ought to try it, and, if they find it answer, recommend it to their masters' tenantry. Seeds from Mr. Gibbs, or any other London seedsman.

2. *Reviews*.—Pontey and Mitchell, as in *Gard. Mag.* vol. iii. p. 460.

3. *Agricultural Intelligence*.—As usual a great variety of matter interesting to farmers and country gentlemen.

4. *Sporting Intelligence*.—Equally good and interesting in its kind.

The Farmer's Register, and Monthly Magazine of Foreign and Domestic Events. Glasgow. In 8vo Numbers, monthly. 1s.

We have seen a few of these numbers, though their publication in London has hitherto been very irregular. The plan of the work, its cheapness, and especially its appearance monthly, is good, and perhaps better calculated for diffusing information among the farmers in the west and north of Scotland, than the late quarterly *Farmer's Magazine* of Edinburgh. The latter work, embracing various departments of political economy, was calculated for a higher class of readers than the *Farmer's Register*, the main object of which, at present, is to create readers, who will also be treated with political economy in due time. The editor is evidently a man of practical knowledge, and he has in consequence attracted as correspondents some of the principal writing cultivators of the day. Among these we may mention Mr. Aiton of Hamilton, Mr. Sinclair of New Cross, and our correspondents, Mr. Finlayson, Mr. Main, and W. M. of Argyleshire. In the eighth number is an interesting paper, by Mr. Sinclair, on the plants adapted for the alternate husbandry. The author assumes that the grasses and other plants, best fitted for alternation as green crops with grain, are such as arrive at perfection in the shortest space of time, or within two years, that produce abundant succulent herbage, and do not run quickly to seed; that any species of such plants, or of any others, continued for some time on a particular soil, soon exhaust it, so as no longer to be reared there with success, and that some other crop must necessarily intervene. This holds good in annuals, biennials, plants of many years' duration, and even forest and

fruit trees; but, of course, the fact is most obvious in the case of annuals or biennials, such as corns or clovers. Mr. Sinclair does not pretend to account for this antipathy of plants to continue in the same soil; because, in analysing a soil immediately before and after producing an impoverishing crop, he found no diminution in the weight or proportion of its constituents, and because M. Braconnot grew plants in substances free from any kind of soil, to a perfect state of maturity. All that can be done, he says, is to draw information from experiment, and he has given a list of what are called green crops, and shown the proportionate quantity of nutritive matter of each to the gross produce.

Experience, he says, proves that "the effects of some plants are only to impoverish the soil for an immediate succession of the same plant, while others have the property of exhausting the land, not only for an immediate succession of themselves, but likewise for every other kind of vegetable." Mr Sinclair has, therefore, given the following lists of general impoverishers and partial impoverishers:—

General Impoverishers.—Oats, rye, potatoes, carrots, mangold wurtzel, cabbages, kohlrabi, *Bunias orientalis*.

Partial Impoverishers.—Wheat, peas, beans, turnips, clovers, sainfoin, lucerne, grasses when mown.

Mr. Sinclair we believe to be better acquainted with chemistry than any gardener, and in vegetable physiology to be superior to most; indeed, he is altogether one of the most scientific cultivators we ever knew. His valuable work, the *Hortus Gramineus Woburnensis*, much as it has been approved of, has never been fully appreciated by practical men, being, in fact, rather in advance of their present state of preparatory knowledge; it will be better understood, and more highly valued, twenty years hence. We would recommend every young gardener to study carefully the valuable papers on horticultural chemistry which Mr. Johnson is now laying before them (Vol. III. p. 129. et seq.); and, if they cannot purchase, to borrow from their employer Davy's *Agricultural Chemistry*, and Mr. Sinclair's work, and, by study, to make them their own.

Mr. Aiton's papers, and those of W. M., are on subjects purely agricultural, and on planting; that by Mr. Main is an extract from a paper by him in Brande's *Quarterly Journal*, on the history of British fruits.

We have no doubt this will be a successful work, and do much good; we shall from time to time notice in it what we think interesting to gardeners, and shall be happy to contribute to it any spare paper that we may think suitable, or, now and then, to recommend a correspondent to it, as we have already done, and shall continue to do, to Fleming's *British Farmer's Magazine*.

The Gardener's Remembrancer, and Apiarian's Monthly Calendar. In One Sheet, 2 ft. 6 in. by 2 ft. 2 in. Printed on both sides, by the Typo-Lithographic process. 7s.

One side of this table contains a calendar within a circle, each month in a division, radiating from the centre to the circumference, and a "poor man's weather-glass," printed across the bottom of the page. The other side contains the vegetable seed calendar, and the fruit calendar, with directions for grafting, and for the culture of the mushroom. A good deal of useful information is comprised in these divisions; but more might have been introduced by printing the calendar in parallel columns, and printing both sides of the sheet from the one side to the other, instead of from the top to the bottom. Too much, in our opinion, is sacrificed to show; and, in short, we regret, and rather wonder, considering the present state of horticultural knowledge and book-making in this country, that something better was not produced.

Withers, W. jun., Esq., of Holt, Norfolk, Author of a Memoir on Planting and Rearing Forest Trees, &c. (reviewed Gard. Mag., vol. ii. p. 75.): A Letter to Sir Walter Scott, Bart., exposing certain fundamental Errors in his late Essay on the Planting of Waste Land; showing, from the State of one of the Public Forests and otherwise, the great Loss and Disappointment generally attending the Scotch Style of Planting; and giving several Proofs of the Success and certain Profit which follow the more liberal and natural System recommended by the Author: and containing Observations on the Distance at which Trees should be planted; and Communications to the Author, from Gentlemen of experience on the Subject of Pruning and Thinning Plantations; concluding with Maxims for profitable Planting. London. 8vo, pp. 133. 4s.

The passage which has given rise to this pamphlet, has been quoted in a former page (Vol. III. p. 350.), and accompanied by one or two remarks which prove that we entirely agree with Mr. Withers on the importance of a previous preparation of the soil. Mr. Withers goes into the subject at length, and with an enthusiasm, which has perhaps led him to be less courteous to Sir Walter Scott, than he should have been to a writer so entirely imbued with good feeling, and so universally admired and respected. The following passage will at once convey an idea of the manner and the matter of the *Memoir*:—

“We are all, Sir Walter, doomed to have our tempers put to severe trials. I have often, on hearing a man of talent state in a confident and authoritative manner, that which I knew, and he ought to have known, to be untrue or erroneous, — I have often, on such occasions, had some difficulty in restraining myself from giving a rather uncourteous expression to my feelings; and I acknowledge, that, on reading the paragraph above-quoted, an exclamation involuntarily burst forth, which, for the sake of good manners, I should be very sorry should appear upon paper. I have endeavoured to subdue these feelings; but there is, even at this time, something at my tongue’s end, which it is said was frequently to be seen quivering upon the late Lord Thurlow’s lip, when he was sitting on the bench of justice. However, I have now found relief; and as it is far from my intention or wish to give you any personal offence, I will content myself with observing, that, although these opinions of yours are quite at variance with the principles which govern vegetation, with the authority of our best writers, and opposed, not only to my own experience, but to the evidence of innumerable facts which force themselves upon our observation in every part of *this* kingdom, I am willing to attribute your promulgation of them to your not being sufficiently acquainted with the subject on which you were writing.

“You admit, that in the ‘earlier days’ of a plantation upon prepared land, ‘the plant enjoys the benefit of having its roots placed amongst earth which has been rendered loose and penetrable,’ and that it ‘will *rush up* with unusual rapidity.’ Do you consider this *rushing* growth healthy, and vigorous, and enduring? Or do you think it is like the forced spirits of the opium-eater, which are excited only to produce a corresponding depression? I contend, that a tree so growing will not only acquire, but maintain, a great superiority over one that is planted on an unprepared soil: and that its numerous and vigorous roots and luxuriant branches will enable it to receive food, which the poor feeble offspring of the Scotch system can never acquire. And is it possible that such a plant should be so arrested in its progress, on its roots reaching the subsoil, that its puny and stunted competitor should equal it in ten or twelve years? The idea is monstrous. Why, Sir Walter, the former will be a better plant at the age of twelve years than the latter, if it can be kept alive, will be at thirty-five;

and if you want ocular proofs, come into this country, and I will show you hundreds of them. I will show you plantations only four years old upon prepared land, worth five times as much per acre as those planted upon land of equal quality upon the Scotch system twelve years *before*. There are many proofs given in my pamphlet, but as I do not wish to quote from my own work I will pass them by. My excellent neighbour and friend, Mr. Hardy of Letheringsett, who ranks below no man in the county for his success in planting, and the taste and spirit he displays in the improvement of his estate, will give you an opportunity of contrasting plantations upon prepared and unprepared land: there you will see the former overtaking and surpassing the latter though many years older. You may then go on to Holkham and examine the splendid woods of Mr. Coke, ascertain the enormous income derived from them of late years, and compare them with the wretched-looking and profitless plantations of the same, or a greater age, raised upon the Scotch system, with which our county abounds, but which, out of delicacy to their owners, I will not here more particularly refer to.

“ I will not confine myself to Norfolk for illustrations of your favourite Scotch style of planting, but will give you a specimen of its effects in a distant part of the kingdom; exhibiting at the same time the injurious system which prevails in our public forests, and affording a specimen of the capacity of those under whose superintendence they are placed. I am enabled to do this from the publication of a Mr. Wm. Billington, which has just fallen into my hands, but which bears the date of 1825. It appears that he was appointed ‘ Surveyor-general of Dean Forest in the year 1810;’ and he apologises for his publication on account of the great importance (both to the nation and to most landed proprietors) of raising young oak plantations ‘ *for future navies.*’ He acknowledges, that ‘ *the care and management of plantations in the first period of their growth is by far the most important of all; for as the human character is formed in the first ten or twelve years, so it is with forest plantations.*’ If the greatest care and skill are not used then to train them “in the way they should go” when young, what can be done afterwards generally has but little effect, as the experience of ages will testify.’

“ We shall see by and by what Mr. Billington’s ideas of care and management are. They are bad enough to be sure, but at any rate his opinion is directly at variance with yours. He thinks (and I agree with him) that every thing depends upon early care and management. You, on the contrary, consider it of no importance, for that whether trees be well or ill managed when young, they will be of equal value at the age of ten or twelve years, by which time, according to Mr. Billington, they will, if previously neglected, have become wholly worthless or irreclaimable.

“ On reading the introduction to Mr. Billington’s work, I expected I had found an able fellow-labourer, who would assist me in the demolition of the Scotch system; but, to my great surprise, I soon discovered that he was one of its staunchest advocates: and that, notwithstanding all he had said about the importance of early care and management, he had in his official capacity of Surveyor-general, during several years, allowed that system of raising trees to be practised in a most injurious manner. I shall notwithstanding enlist him into my service; and although I cannot cite his authority in favour of good planting, I can hold him up as an example of that which is bad, and produce his ‘ facts and experiments’ as evidence of the complete failure of your style of planting.” — (p. 14.)

It appears that government made a contract for planting Dean Forest with five-year-old oaks and other trees, and also acorns, and that the greater number of them were destroyed by the growth of ferns, grass, broom, &c. Every year a great many blanks required to be filled up; — “ the ground was replanted over and over again — the grass and herbage, whins and

furze, constantly destroying the trees — money expended by wholesale in yearly cutting or beating down this grass and rubbish — and finally, in 1821, four years after the last of the enclosures was completed according to contract, and twelve years after the first of them had been begun, we see, that instead of yielding a profit, as ought to have been the case, nearly three million trees were then wanted, and were actually used, in filling up the vacancies in this forest." — (p. 28.)

A variety of other statements and reasonings are given, which prove the bungling way in which planting is performed in the national forests, and the advantages which result from duly preparing the soil, and attending to keeping the ground clear of weeds afterwards, till the branches of the trees cover the surface.

There is one point on which we, and every planter of general experience, will differ from Mr. Withers. Mr. Withers is of opinion that where a proprietor has extensive tracts of waste land, he ought to plant no more of it than he can do effectually. (p. 74.) If Mr. Withers were in possession of a moor or mountain of 1000 acres, and had no more than 100*l.* to spare for planting it, he would only attempt 10 or 12 acres of the best soil and in the best situation; and he would give as a reason for so doing, that he would sooner have his 100*l.* returned from these 10 acres than he could from the 1000 acres. In this we should say he was correct; but that circumstance would not hinder us from attempting the whole 1000 acres with the 100*l.* (enclosing being supposed out of the calculation in both cases), because, after 20 or 30 years, notwithstanding the truth of all that Mr. Withers has stated, we know that we should have 1000 acres of wood of some sort; and, under certain circumstances of soil and situation, for instance, thin moory soil, or a steep surface liable to be washed away by rain, we should have nearly, or wholly, as valuable a plantation without preparation as if the soil had been prepared! We should, in the case of such soils and surfaces, not plant at all, but sow tree seeds. The sorts we should make choice of would be the indigenous species of — 1. Birch, Round-leaved Willow, Poplar, Alder; 2. Bird-cherry, Elder, Dogwood, Wayfaring Tree, Mountain Ash, White Beam; 3. Crab, Thorn, Pear, Cherry, Holly; and, 4. Ash, Maple, and, in general, as many tree seeds, both of the coniferous and leafy kinds, as we could get cheap. The first division we would mix together, and sow over the whole at the rate of a pound an acre; the second assortment we would sow over the whole at the rate of two pounds an acre; and the other assortments at the rate of half a pound an acre. The time might be January or the beginning of February; and, on the supposition that all cattle and sheep were carefully excluded, we feel confident that in a few years the surface would be covered with wood of some sort, most probably of the sorts best suited for the soil. Now, what we maintain is, that in Scotland and Ireland, and in many parts of Wales and the north of England, 1000 acres of wood of any sort confers more value on an extensive territorial surface than the most thriving plantation of a few acres, however profitable the latter might be when taken by itself. In estimating the value of Mr. Withers's system, therefore, it is necessary to take this view of the subject into consideration; for a plantation may yield no profit for many years, and yet add greatly to the value of the estate, by its effect in an ornamental or ideal point of view, by its shelter for game, singing birds, &c., and by its ultimately forming a nucleus for raising the more valuable timber trees.

Supposing 1000 acres sown as we have recommended, and none of the trees to have come up but the Birch, Round-leaved Willow, Bird-cherry, and Elder, (trees that, we will venture to say, will, in Britain, rise from seed thrown upon an unprepared surface, under any circumstances of soil or situation, not wholly marsh, drift sand, saline, or 2000 ft. above the level of the

sea,) in seven years they will have covered the surface ; and it is easy then to thin them out, and place in their shelter the seeds or plants of such more valuable trees as it is thought will suit the soil. Two of the most certain trees for rising from seed thrown on an unprepared surface, are the Birch and that species of Willow commonly called in England the Great Round-leaved Willow (*Salix caprea*, goats being fond of the catkins), the bark of which is used in the Highlands for tanning, and the wood for various purposes. The Bird-cherry, both the native and American species, is nearly as certain ; and it will not be denied, that the copse-wood produced from the stools of these trees is valuable as such.

Mr. Withers acknowledges (p. 78.) that he knows nothing either of Ireland or Scotland, and he adds, " I take this opportunity of stating most distinctly, that my observations, as to the necessity of preparing the soil for trees, are meant to be confined to that part of the United Kingdom in which I reside." The Scotch system, after all, therefore, may be good for something in Scotland, though, as we have before stated (Vol. II. p. 76.), it may be very unfit for most parts of England, and particularly so for that part of it where Mr. Withers resides, and with which alone he acknowledges himself to be acquainted. We think it would have given more effect to his observations, both in this and in preceding pamphlets, if Mr. Withers had made this avowal in setting out, and limited his theory and maxims to soils and situations under certain circumstances.

The result of general experience on this subject is as follows : — On all soils and situations where corn is or may be grown, plantations of trees ought to be considered as a crop among other crops, and, as in other crops, culture bestowed previously to planting, and during the growth of the crop ; but as there are certain soils and situations, where all that the agriculturist can do with benefit, is to encourage the growth of pasture grasses, without attempting to raise corn, so there are other soils and situations where all that the planter can do is to encourage the production of trees by sowing or planting them, and excluding their natural enemies, without attempting to stir the soil. Mr. Withers's system and the Scotch system are, therefore, both good under certain circumstances. If Sir Walter Scott has too exclusively advocated, what Mr. Withers calls the Scotch system, Mr. Withers has not less exclusively advocated what he calls his own. Both authors, perhaps, have given rather too high a colouring to their systems.

Near the end of the pamphlet, some opinions in favour of moderate pruning are introduced. It is certain, that where pruning is attempted, it is very frequently overdone ; large side branches are cut off, with a view of throwing the increase of timber into the trunk, instead of wasting it in boughs : but the effect of this is almost inevitably a stagnation of growth for some years afterwards ; for the power of a tree to form wood, whether in the trunk or branches, depends not less on the efficient number of its leaves than on its roots. The safe practice is to begin pruning early, only to cut off small branches, and never more than one or two from one tree in a season.

Hunt, T. F., Architect, Author of "Half a Dozen Hints on Picturesque Domestic Architecture," "Designs for Parsonage Houses, Alms Houses, &c. &c." (reviewed Vol. III. p. 76.) : *Architettura Campestre* ; displayed in Lodges, Gardeners' Houses, and other Buildings, composed of simple and economical forms, in the modern or Italian style ; introducing a picturesque Mode of Roofing. London. 4to.

The plates in this volume are from stone, by Mr. J. D. Harding, and equal to any thing ever done in this country by the lithographic process.

Some of the designs, for instance Plates I. III. IV. VI. VIII. IX. and XI. are beautiful, and do credit to the pictorial taste of the architect; the others, viz. II. V. VII. X. and XII., are in what we consider bad taste; and we regret to state that the ground plans of the whole are liable to the objections which we have already offered (Vol. III. p. 76.) to the plans of the designs in the Gothic style by the same author. We shall proceed to give the reasons for these opinions.

Pl. I. Summer House and Gardener's Dwelling. (*fig. 34.*) The elevation (*a*) is most elegant; but who that could afford to keep a gardener and build such a summer house (*b*), would wish to limit his servant to two bare apartments. (*c d.*) How easy to have added other conveniences. (*e f g h i k.*)



Pl. II. A Garden Cottage. (*fig. 35.*) The circular porch (*a*) is bad; first, because it is too large for the building; secondly, because, to preserve the appearance of strength, the openings between the columns are much too



wide for a circular plan; a third objection to this design is, that there are two other porches or porch-like places (*b c*), and two lobbies (*d e*), which is at least too much of a good thing; and the last objection is the usual one of the want of room and conveniences. The sitting-room (*f*) is sufficiently large, but how are the family that occupy this room to sleep in one small bedroom (*g*)? and how very inconsistent this accommodation with so many lobbies and porches. There are, however, two small closets here (*h i*), which is something.

Pl. V. A Gardener's Cottage, or Gate Lodge, and Pl. VII. an Orangery and Garden Seat, are objectionable on the second principle

above mentioned, of the openings in the elevation being too wide for a circular plan. This always gives the appearance of weakness, and never was, and never will be, beautiful in any style of architecture, in any age, or in any country.

Pl. III. A Gate Lodge. One sitting-room, and one small bed-room with a campanile over containing a prospect seat. There is not a closet, porch, lobby, shed, cellar, or-convenience of any kind.

Pl. IV. A Dairy and Game-keeper's Dwelling. The elevation is handsome, and, on the supposition that the dairy-maid is a single woman, a sitting-room and bed-room may be sufficient for her.

Pl. VI. A Small Residence, or Superior Gate Lodge. (*fig. 36.*) The elevation (*a*) very handsome; but the plan all porch and gallery (*b c d e.*) It might easily be altered. (*f g h i k.*)

Pl. VIII. Gate Lodge. The elevation simple, but grand and architectural in form and dimensions; the interior accommodations mean, and not what one would expect from the exterior.

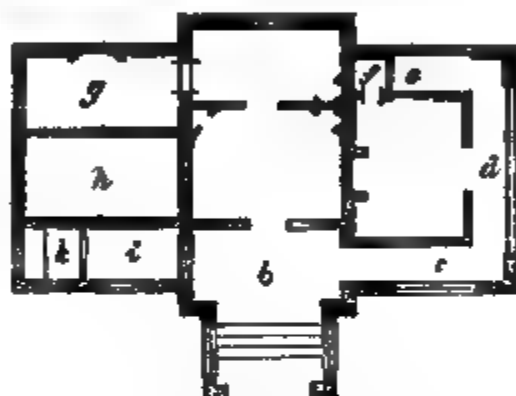
Pl. IX. Prospect Tower, Garden Seat, and Apartments for a Gamekeeper, or other out-door servant. (*fig. 37.*) The elevation bold, striking, and picturesque; breadth and simplicity of effect injured by the two small openings under the cornice (*a*), but the plan, as usual, without sufficient accommodation, and totally destitute of convenience. Had what is wanted been added, the elevation of the back might have been as handsome as that of the front.

Pl. X. A Bridge. A bridge carrying a summer house, or billiard room, with jets d'eau, terminating the four abutment piers. Decidedly in the worst taste of any design in the book, because a heterogeneous mixture of ideas; a prostitution or degradation of one of the noblest objects of the art of the architect, because the most important in its use. (*See Gard. Mag. vol. i. p. 286.*)



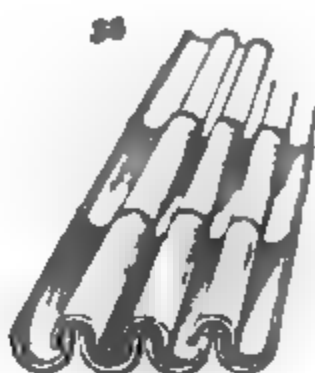
Pl. XI. A Small Villa. The elevation handsome, and the plan commodious. Here our architect is at home, and leaves us only the agreeable duty of commendation.

Pl. XII. A Casino. The elevation symmetrical, but to our taste rather formal or deficient in variety for the Italian style; the plan good, and the accommodations suitable to this style of residence.



The picturesque mode of roofing, to which the author alludes in his title-page, is that which must be familiar to every one who has been in Italy, and especially in Florence, characterised by high ridge and furrow tiles. (fig. 38.) They are thus described by a recent traveller:—

"The roofs at Florence are of a low pitch, and covered with tiles of two different forms—a flat tile, with ledges on the side, and a tile nearly semi-cylindrical, but a little tapering upwards, which covers the interstice between the ledges of the flat tiles, and is named *canale*. These tiles are also used in Rome, and in many other parts of Italy; and tiles are found in ancient Greek and Roman buildings of a similar form, and sometimes made of marble. The tiles at Trieste and Venice are all of the tapering cylindrical form, a tile with the convexity outwards, being laid so as to cover the edges of the tiles of which the concave side is outwards."



We should like to hear the reasons which Mr. Hunt will give for having omitted the accommodation and conveniences, the want of which we have complained of on this and a former occasion. Perhaps it may be said that these cottages are intended for single men, or for small families, or that it was feared that gentlemen would not go to the expense, or would be jealous of giving their domestics so many comforts. But none of these reasons, nor any others that we can think of, will in the slightest degree justify Mr. Hunt for neglecting a degree of attention to the principle of accommodation and convenience in the interior, proportionate to that which he has bestowed on exterior effect. Handsome as some of these lodges are as objects to look at, they are as miserably deficient of comfort within as the mud cabins of Ireland, the stone hovels in some parts of Scotland, and the log houses in Poland. Whether gentlemen will go to the expense of proper accommodation or not, and whether cottages are to be occupied by small or by large families, it is the duty of architects, when they publish designs addressed to gentlemen, to introduce into them every reasonable improvement of which such designs are susceptible. Why should a modern labourer's cottage be the only object that is to fall short of the improvement of the age? Designs for ornamental cottages should, at least, display on paper the *beau idéal* of that department of architecture; if every amelioration be not carried into execution, the fault cannot be laid to the architect, but a fault may be attributed to him if he does not show what ought to be done; and it should not be owing to any omission or neglect on his part, if the taste and the standard of enjoyment of those for whom he builds be not elevated and improved. It is clearly both the duty and the interest of the higher classes to raise, by every means, the standard of enjoyment among all that are under them. Humanity dictates this line of action as well as prudence; for it would be easy to show that, if improvement did not pervade every part of society, the breach between the extreme parts would soon become so great as to end in rupture. The more the comforts, enjoyments, and even luxuries of every servant, from the highest to the lowest, are increased, the more will they be useful, assiduous, and attached to their masters. Every servant feels this, and by every master it either is or will be felt. We are aware that the principle may be controverted, from the exceptions which, in the great mass of society, must of necessity frequently occur; but, if this is not the true principle to act upon, what is the true principle? We assume it as founded in nature, and recur to it as supplying the reason why all cottages ought to be rendered as comfortable and agreeable as times and circumstances will admit, why it is

the duty of architects to introduce these comforts and luxuries, and why we have blamed Mr. Hunt for neglecting this part of his duty.

It would have been but a poor compliment to Mr. Hunt to have only echoed the praises which have been most justly bestowed on him, and with which we entirely concur, for his designs for villas and parsonage houses ; we aim at a higher degree of utility, and have frankly and candidly blamed Mr. Hunt, because our object is to induce him to reconsider the subject of labourers' cottages ; and, should he do so, we are certain he will produce a volume which will meet with our approbation.

Perhaps it may be asked whether the designs of labourers' cottages published by other architects, such as Gandy, Robertson, &c., are not as defective as Mr. Hunt's ? To which we answer, that, as far as we recollect (for the works are not before us), there is no great difference ; but Gandy's cottages were published twenty years ago. To give an idea of the opinion of some architects on this subject, we shall just mention what was stated to us lately by one of great experience, who has studied both in this country and in Italy and Greece, viz., that he never had built a gardener's or porter's cottage in which there was not a proper Bramah's water-closet ; and that he thought no gentleman ought to build a cottage for his own servants without this addition, if it were only with a view to the general effect it had on their habits of personal propriety, and general order and neatness. This refers to but one trait of the subject, but it is characteristic. We heartily wish every architect, and employer of architects, were of the same opinion as our friend.

Jackson, J. G., Esq., Architect : Designs for Villas, on a moderate Scale of Expense ; adapted to the Vicinity of the Metropolis, or large Towns. London, Carpenter and Son. 4to Numbers. 5s. To be completed in six numbers, each containing ground and chamber plans, elevations, and perspective views.

In these designs " the endeavour has been to obtain a comfortable villa on the most moderate scale, and adapted to the vicinity of a city or metropolis. With this view, the plan is limited to the acquisition of three principal apartments ; the utmost accommodation in sleeping-rooms, and proper distribution of the offices requisite in a building of this extent." This first design is very well arranged in the plans of the three floors. The elevation and perspective view are in a style not quite so simple as we could wish. The leading feature is the horizontal lines of the Grecian manner, while the chimneys recal to mind the architect Thorpe, and his mansions at Burleigh and Wollaton. (Vol. II. p. 481. *fig.* 130.) In one gable there is a projection for a chimney-flue, which runs up from the ground through the pediment, and which, though very fit for a cottage, is decidedly bad here. We are almost certain that Mr. Jackson is of this opinion himself, and that, if called upon to execute the design, this projection would be omitted. We know also the reason why he introduced it ; but where there is great intricacy and bustle in one part of a design or picture, as in the centre of this group, there ought to be great breadth and repose in other parts to contrast with it, and preserve unity of effect. We highly approve of the balcony, and should have had no objection to its being covered in the style of a veranda, but with glass and creepers underneath instead of boards. Broad verandas in the country, with recesses in them for benches and tables or groups of flowering plants in pots, are great sources of enjoyment, when walking abroad is impracticable, and in summer evenings, when repose in the open air is refreshing ; at all times, they afford a sort of intermediate form of repose or recreation, between living in a room and living in the open air.

Rattray, James, Surgeon, and Lecturer on Botany in Glasgow : A Botanical Chart ; or, Concise Introduction to the Linnean System of Botany.

Glasgow. In Two Sheets, each 11 in. by 16 in. 1s.; done up in a 12mo case, for the pocket, 2s. 6d.

A very useful little compendium. We recommend gardeners to purchase the two sheets for 1s., paste them back to back, and hang them up in such a position in their rooms as frequently to meet their eyes, and thus insensibly impress their contents on the memory. We cannot recommend the chart done up for the pocket to the gardener, because it would occupy too much time unfolding and closing, and, because, if he were to carry it in the pocket, for the purpose of reading in the open air, he would find it much more inconvenient than a common 12mo work.

FRANCE.

Delpierre, Leocade: Manuel du Fermier. Paris. 18mo, pp. 272. 1 pl. 3 fr. 50 c.

A well written compendium of the present state of knowledge in France of what is there called the "grande culture," our agriculture.

Annales de la Société d'Horticulture de Paris, &c. 8vo. Nos. 3 to 5 inclusive.

These will be reviewed in future Numbers.

Vitry, Urbain: Le Propriétaire Architecte, contenant des Modèles de Maisons de Ville et de Campagne, de Fermes, Orangeries, Portes, Puits, Fontaines, &c., ainsi qu'un *Traité d'Architecture et de Construction*, renfermant le Résumé des nouvelles Découvertes relatives aux Constructions. Ouvrage utile aux Architectes, aux Ingénieurs, aux Entrepreneurs, et principalement aux Personnes qui veulent diriger elles-même leurs Ouvriers. Paris. 2 Parts, 8vo, 100 pls. 40 frs.

GERMANY.

Bronn, H. G.: Ergebnisse meiner naturhistorisch-ökonomischen Reisen, &c. Results of my Travels, undertaken with a view to Natural History and Rural Economy. Part I. Switzerland, Italy, and the South of France. Heidelberg. 8vo, 652 pages.

At Paria M. Bronn found the red mulberry cultivated in the Jardin de Botanique Rurale, in preference to the white species, with a view to sending the plants to Russia and America, where the leaves of the red mulberry are said to be preferred for the silkworm. The territory round Rome, he found almost entirely covered with thistles, which are mown three times a year, and of some value as fuel. He was delighted with the agriculture of Tuscany, and the system of irrigation in Piedmont. In Switzerland he seems to have been more interested with the personal character of the inhabitants, than with their agriculture.

In the *Foreign Review and Continental Miscellany*, No. I., for January last, p. 199., is a very interesting analysis of a similar work, by Kasthofer, a Swiss writer. The English reader will also find much instructive and agreeable reading on Switzerland and the south of France, in *Bakewell's Travels in Savoy, &c.* Nothing surprises us more than the little attention that is paid to Switzerland by British tourists. Though an old-fashioned idea, it is not the less true, that, as regards the state of society, scenery, and rural affairs, Switzerland is the most interesting country in Europe.

NORTH AMERICA.

Original Communications made to the Agricultural Society of South Carolina. Charleston. 8vo, pp. 316.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

GERMANY.

FRUIT Trees on the Rhine. — The valley of the Rhine, from Cologne to Mentz, a distance of ninety miles, may be called (except in those parts where it occasionally widens considerably) one vast orchard. The rocks and hills on each side are in favourable aspects clothed with vines, and the whole of the bottom of the valley not occupied by the river and roads is thickly planted with fruit trees, which are even scattered, in many of the wider portions, over the ground devoted to corn and garden vegetables. The principal fruit trees are pears, plums, and walnuts, with a small proportion of apple trees, and here and there, in a garden, a standard peach or apricot. Of the pears, part are dried in the sun or near the fire, after being pared and cut into slices, and part boiled down into syrup. The plums, which are mostly of the same oblong purple variety, with a coarse and indifferent flavour, are partly eaten fresh, or prepared as sauce for poultry, &c., and partly used after fermentation, for the distillation of an ardent spirit, but are chiefly dried and exported to Holland, whence they are sent to England, and there sold under the name of prunes. From the walnuts oil is obtained to a small extent, but the produce is principally sold for the dessert. The walnut trees were much injured by the intense cold of last winter (1826-7). Of the branches of some the extremities only are blackened and destroyed; of those of others, half or two thirds of their length; and of those of others, the entire extent, the trunk alone retaining any vegetable life: however, the vigorous young shoots prove to be sufficiently active to repair the mischief in the course of time. These last present a singular appearance in the landscape, resembling trees, with all their branches blackened and scorched by a conflagration, on whose trunks ivy, or some other climbing plant, had subsequently established itself.

The tourist, who sees the Rhine steam-boats dart past him down the river, at the rate of ten or twelve miles an hour, and which, in connection with those from Rotterdam, resume the conveyance of goods to London from all parts of the adjoining districts in four or five days, cannot help speculating on the facility with which a naturally beneficial traffic in the finer fruits might be carried on between this garden of the Prussian dominions and the British metropolis. The valley of the Rhine enjoys a climate warm enough to ripen as standards all the finer pears and plums (and probably the hardier peaches and apricots), as well as late grapes; and has, ready built, scores of miles of south fence walls, which would serve for training the earlier grapes upon; and these fruits, thus cheaply produced, might be conveyed to London at no great expense, and with less risk of damage than in half a day's journey by land. Nor would this plan require any long time for its execution; as, if the present fruit trees, which are healthy but

mostly of inferior varieties, had their extreme branches regrafted with the best sorts, they would bear crops in a very few years; and it might be worth the attention of the Prussian Horticultural Society to publish instructions, provide grafts, and offer premiums with this view. That the change would be greatly to the advantage of the cultivators of fruit on the Rhine, is clear from its extreme cheapness there in tolerably plentiful years. Retail dealers in the streets offered us twenty large bell pears for a groschen ($1\frac{1}{4}d.$), and fifty large plums for the same sum: and grapes could be afforded for $2d.$ a lb., or less. (*Note of a Friend. Sept. 1827.*)

Pear Syrup. — This is one of those preparations of fruits, which, though little, if at all known in England, form an important branch of rural economy in many parts of the Continent, enabling the peasants to derive profit from their vast crops of pears, which would otherwise in great part be useless. In preparing it, the pears are first heated in a copper over the fire, until the pulp, skins, &c., have separated from the juice, which is then strained, and gently boiled down to the consistence of molasses, which in appearance and colour it exactly resembles, but with a more agreeable flavour, combining that just proportion of sweet and acid which would be relished by any palate not very fastidious. A considerable part of this syrup is consumed by the peasants in their own families, and the rest sent to market in the towns, where, at a price considerably less, it supplies the place of molasses, being given by the poor to their children on thin slices of bread, and largely used by the pastry-cooks in the preparation of gingerbread. Until pear trees are grown in England far more profusely than at present, it can seldom answer to apply their produce with us to the manufacture of syrup; though in plentiful years it might turn to account to adopt this plan in districts where coals are cheap. Indeed, the experiment might be worth trying, whether in such situations pear trees might not be cultivated with profit for the express purpose of manufacturing this substitute for molasses, which at the same price, children (the great consumers) being the judges, it would soon drive out of the market. At any rate, a family in the country, with a surplus of pears, might always thus convert them, at little expense, into a wholesome and highly palatable conserve for its younger branches. (*Ibid.*)

ITALY.

Edible Fungi. — At Naples, gardeners are said to make use of a stone called the *pietra fungaja*, in order to produce the *Bolëtus tuberaster*. At Brescia the *Amanita incarnata Pers.* is produced from the bruised fragments of that mushroom; and the *Agáricus ostreatus*, another edible species, is produced at pleasure from the husks of the berries of the Sweet Bay, *Laúrurus nóbilis*, after they have been boiled, in order to extract the oil. The husks are buried in a trench, firmly pressed down, and a layer of earth about 6 in. thick placed over them, and also firmly pressed. The whole must be guarded from excessive rains. A bed made in this way will produce mushrooms in October, and continue to furnish them during the November and December of that and the two succeeding years. About Genoa, they produce mushrooms in a similar manner, by using the remains of olives which have been pressed for oil. In the Landes in the south of France, they water the earth under oak trees, with water in which has been boiled the *Bolëtus edulis*, and this is said to produce an abundant crop of that species. (*Bul. Un., Oct. 1827.*)

DENMARK.

Grapes in the open Air in Denmark, in the end of December. — M. Lindegaard has got a vine between three and four years old, trained in front of the outside of the orangery, of the White Chasselas or White Van der Lahn

kind, on which are still upwards of 100 fine bunches. They are protected during the night with reed mats, and many of the bunches, when the mouldy berries are thinned out, will be fit for the table till the middle of January, and longer. It is a very great curiosity in this country, to see at Christmas fine ripe grapes hanging on the vine in the open ground. — *J. P. Petersen. Copenhagen, Dec. 29. 1827.*

HOLLAND AND THE NETHERLANDS.

Brussels, February 15. — A number of flower shows are held at this time in different cities of the Netherlands.

The Society of Flora of Bruges had a very fine exhibition, and awarded to M. Pettelberghe an honorary medal, as the florist who during the past summer had brought to the public market the finest productions. (*Jour. de la Belgique, Feb.*)

The Agricultural and Botanical Society of Ghent, at their meeting, February 7th, distributed a large piece of vegetable wax, sent by M. le Baron de Serret, of Bruges, which he had produced from the berries of the *Myrica pennsylvanica*. These berries were grown on a surface of 150 square ft. of poor soil, which annually produced from 1½ to 2 lbs. of wax. A medal was given for *Asclèpias tuberosa*; and a prize to M. P. Verleeuwen, for *Crinum amabile*, as the best cultivated plant. (*Ibid.*)

The Horticultural Society of Tournay gave away several prizes; that for the best culture was for *Astrapæa Wallîchii*; the second for *Blètia Tankervilleæ*; and the third for *Epàcris rosea*. A prize was given for a plant forced so as to come into flower on a particular day, and this plant was *Rosa centifolia Pomponia*. (*Ibid.*)

The Society of Flora of Ypres gave away two prizes. (*Ibid.*)

The Society of Agriculture and Botany of the District of St. Nicolas in East Flanders assembled on the 25th of February, and had a very splendid show of flowers, plants, and trees. Four honorary medals were given away, one silver watch, and several minor medals. (*Ibid.*)

The Agricultural and Botanical Society of Louvain held an exhibition of plants and flowers on the 7th of February. The prize for superior culture was awarded to M. de Mangeer for a *Primula sertulosa*, of gigantic development. The second prize was awarded to M. Paschal d'Onyn, for a *Camèllia japonica incarnata*; and the third to M. de Schrynmaher, of Dormael, for a *Sophdra tetràptera*. (*Ibid.*)

Floral Society of Brussels, Feb. 20. — A meeting of this Society was held in the rotunda of the Museum, and the number of plants produced were 1033. The medal for the rarest plant, or that most recently introduced into Europe, was awarded to the *Podalýria* sp. ? by M. Steenecruys d'Anvers; the *Lílium candidum* of M. le Baron Peuthy d'Huldenberg carried off the palm, as the plant to be produced in flower at the precise time of the 16th of February; and, finally, the *Cypripedium spectabile*, by M. van Geert, florist, at Ghent, obtained the medal as the most remarkable for its beauty. The exhibition lasted three days. (*Ibid.*)

At Antwerp, several zealous amateurs are endeavouring to form and arrange a botanical and horticultural society. (*Ibid.*)

The Orangery and Hothouses of the new Botanic Garden at Brussels begin to present an imposing appearance. The edifice in general will be one of the finest buildings in Brussels; it presents a front of nearly 400 ft. in length. The southern extremity of the front is ornamented with eight Ionic columns, and the other end seems also to require to be so terminated. The centre is composed of a rotunda of the same order, and encompassed by a gallery of eight columns, detached from the main body. We do not think this establishment is surpassed by any other of the kind, either in magnificence or grandeur. (*Ibid.*)

Destruction of Caterpillars. — An order of the State Deputies of our province ordains, under the penalties established by law, the destruction of the caterpillars on the trees and hedges, at two different periods of the year; viz. the 25th of March, and on or before the 25th of the April following. (*Jour. de la Belgique.*)

Leaves of the Mulberry. — The mulberry tree is found in different climates, but the juice of leaves grown in the north is much less nutritive than that of the leaves of the south. In this respect mulberry leaves and silk are not less different than wines, according to the climate in which they are produced. In general, every climate and soil that will produce good wheat will produce large succulent mulberry leaves; but these leaves will be too nutritive; they will have too much sap, too much substance and succulency. The wild mulberry, with small leaves, answers better for such a soil, than the grafted mulberry with large leaves. A general rule, and one to be depended on, is, that the mulberry to produce the best silk requires the same soil and exposure that the vine does to produce the best wine. Experience has proved that silk worms nourished by leaves gathered from a dry soil, succeed much better, produce more cocoons, and are less subject to those diseases which destroy them, than those which have been nourished by leaves produced by an extremely rich soil. (*Un Pépiniériste de la Belgique*, in the *Journal d'Agric. des Pays-Bas*, Oct. 1827, p. 217.)

Nurseries. — In the *Journal d'Agriculture des Pays-Bas* for October, it is stated by the editor, that those which may be best depended upon for fruit trees are, the nursery of Perck near Vilvorde, and the nursery of Freloux near Liege.

The Manufacture of Sugar from the Beet Root is said to be on the increase, and, though the sugar of the Colonies is always somewhat cheaper in the Netherlands than in France, is said to pay the manufacturer. It is stated, however, that a profit is more certain where the manufacturer is also the grower. A part of the advantage arises from giving the leaves and the refuse of the manufacture of the root to cattle, and from the quantity of manure produced. (*Jour. d'Agriculture des Pays-Bas*, Oct. 1827. p. 231.)

Le Poudre Saline. — A patent is taken out for a manure so named, by M. Depup of Brussels; it is said to answer particularly well for clover. (*Ib.*)

ART. II. Domestic Notices.

ENGLAND.

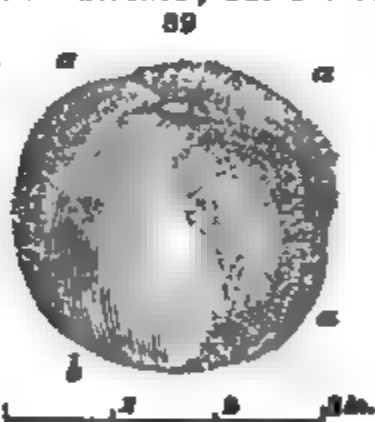
OPIUM has been recently cultivated to a considerable extent in England, particularly by a Mr. Young, and Messrs. Cowley and Staines of Winslow; and, among physicians and surgeons, the English opium is considered to be superior to the best Turkey and East India opium. (*Mech. Mag.*, Feb. 2. 1828.)

Zoological Society. — The Commissioners of Woods and Forests have granted to the Zoological Society the whole of the lake in the Regent's Park, with the islands, the waterfowl, and a convenient site in the neighbourhood of the lake, for erecting premises for breeding, rearing, and trying experiments. Some valuable privileges have been annexed to this judicious gift, which is of essential consequence in itself; but peculiarly gratifying, as testifying the favour of Government, and the interest which it takes in the progress of useful science. (*Mech. Mag.*, Feb. 9. 1828.) We have already (Vol. III. p. 469.) expressed our wish that the botanic garden of the London University might be joined to the zoological garden; and we think, if the whole of the space in the central circle, about ten acres, were granted

by Government for the hot-houses, the herbaceous ground, and the more select things of the botanic garden, the arboretum and fruticetum might be scattered over the whole of the remaining part of the Regent's Park. The advantage of so scattering the collection of trees and shrubs would be, the ample space for each species to assume its natural form and size; or, at least, more space than has hitherto been allowed in any arboretum about London. If Government would be somewhat liberal, and the Zoological Society and London University cooperate amicably, something might be produced worthy of these bodies and of the metropolis.

Women and Boys for weeding and sweeping. — Sir, In thanking you for your favourable opinion (Vol. III. p. 246.) of this place, allow me to say that the taste displayed is entirely that of my employers; and that the order and neatness is greatly owing to their liberality, in allowing Mr. Nash and myself to take on, at our discretion, such women and boys as we may find necessary for keeping down the weeds, and sweeping up decayed worm casts, and the like. I am, Sir, &c. — James Linn. Brouley Hill, Kent, Feb. 23.

Peach and Nectarine in one Fruit. — Dear Sir, I hope the following communication, though only curious, may not be unworthy a place in the Gardener's Magazine; for any deviation from the regular course of nature may lead to knowledge, not altogether useless, to the experimentalist, as well as to the practical man. A Royal George peach tree, cultivated in the garden of the Rev. Mr. Howman, of this place, has produced rather a large fruit, three parts of it being peach (a), and one part nectarine (b), quite distinct in appearance as well as flavour. This was undoubtedly occasioned by the pollen of the latter being conveyed to that of the former; but why was it not mixed? In the stone there is but very little difference; but I have preserved it, and intend planting it. I have made a drawing of it, and herewith send a sketch copy. (fig. 59.) A nectarine tree stands about 5 yards from the peach tree. — We have been building a seed-room with hollow walls, and have no doubt of its answering both as a preservative against dampness, as well as a protection from frost. — Flowers that are gathered, and cannot be examined immediately, may be saved by putting them between blossom paper, wetting each layer: they must have no pressure. Dear Sir, yours, &c. — G. Fenn, jun. Beccles, Sept. 1827.



Awning for a Tulip Bed. — Sir, Mr. Saul has described (Vol. III. p. 418.) a very neat awning for a tulip bed; but though it is a great deal cheaper than that of Mr. Maddocks, to which he alludes, still it is beyond the reach of a number of persons who grow tulips; and as it is, in my opinion, a great addition to any pleasure when it is also a cheap one (for we should not pay too dear for our whistles), I shall describe to you the covering I use.

Down the centre of my bed I stick in a row of long sticks, forked at the upper extremity, such as Mr. Saul uses for supporting his gooseberries (Vol. III. p. 421. fig. 162), and which are sold about London for holding up clothes-lines. Down each side of the bed I also stick rows of the same sort of supports. The middle row I keep about 7 ft. high, and the side rows about 6 ft. high, and the distance between the rows is generally about 10 ft. In the forks of the sticks I lay, along the bed, poles, generally young ash trees, which are sold in abundance at Brentford and Uxbridge. I then take common garden mats, sew two together, end to end, and spread them across these rods, so that they may hang equally down on each side of the bed. If the wind is likely to be very high, I have a parcel of hooked sticks of the same shape as those used by Mr. Saul for hooking down his gooseberries

(Vol. III. *fig.* 161.), and these I stick in the ground, at the edge of the bed, so that each peg may hook fast the corners of two mats. If I wish to look at my tulips in calm weather, I lift up the tails of the mats at the shady side, and lay them on the top; in windy weather, I separate the mats a little on the sheltered side, and put my head through between them. This latter mode Mr. Saul, perhaps, will think too homely, but it does not often become requisite.

I shade my carnation and hyacinth beds in the same manner; and in the winter time, when I wish to protect the beds from frost or rain, I use forked sticks of 1 ft. 6 in. and 2 ft. with single mats, instead of long sticks and long mats. The straw coverings recommended by your correspondent, Mr. Shennan, (Vol. III. p. 167.) would answer as well, and probably come cheaper than Russian mats; but what would answer better still, and I should imagine be more agreeable to the taste of Mr. Saul, would be mats of the same material as those of Russia, viz., *bast*, for the weft, and small packthread for the woof. The advantage of mats of this texture would be, that they would throw off the rain almost as perfectly as canvass, which those now used are far from doing, owing to the interruption of the water by the woof. I wish some of your readers who have a knowledge of weaving, or know how these mats are wove in Russia, would set about getting mats of the description to which I allude into general use. An experiment might be made in this country, by unravelling one or two new mats and weaving them up again with packthread woof, and then one might be sent to the British Consul at St. Petersburg, as a specimen for the natives to imitate. — *S. T. P. Reading, March 7. 1828.*

A Show for the Encouragement and Breed of Poultry is proposed to be annually held, the week before Christmas, under the patronage of Lord Althorp, at his farm in Northamptonshire, when premiums are to be awarded for the best turkeys, pullets, geese, and ducks. (*Doncaster Gazette.*)

A fine Dish of New Potatoes was got on January 1st, for the new year's dinner, which were grown in the open garden, at Hermitage, the villa of Mr. M. Saul, near this town. (*Lancashire Gazette, Jan. 5.*)

The Thames Tunnel. — Mr. Thomson, of Welbeck, with that generous ambition that leads him to be the first in entering into every thing that has for its object the advancement or the honour of the profession of gardener, lost as little time in seconding our suggestions as to the 'Thames tunnel, as he did in following up our views as to garden libraries. He immediately set on foot a subscription among the gardeners and other servants of the Duke of Portland at Welbeck, and the result is as follows: — The steward and the few household servants now (March 15.) at Welbeck (the family being absent) raised 2*l.* 5*s.* 6*d.*; the gardener and his men, 2*l.* 7*s.*; the farmer and his men, 1*l.* 15*s.*; the joiner and his men, 1*l.*; the mason and his men, 10*s.* 6*d.*; and Mr. Conway, clerk of the works, 10*s.*; in all, 8*l.* 8*s.*; which was forwarded to us, and which we have sent to the Committee, as will appear in the lists of subscriptions published in the daily papers; for example, the *Times* and *Chronicle*, of March 18.

SCOTLAND.

The Caledonian Horticultural Society held their Quarterly Meeting in their own Hall on March the 5th. This institution is regularly furnishing new proofs of its utility, and is rapidly rising in the estimation of the amateurs of horticulture. On this occasion, there were six collections of hyacinths, in pots and glasses. Two of these collections contained sixteen pots, and the other four, eight pots each. This was by far the best show of the sort that has been seen in this city for a long time; and such a number of this beautiful flower, in its various colours, ranged on one table, gave great satisfaction, and elicited the warmest encomiums of the connoisseurs. The

collections from Drum, and from the experimental garden, consisting of sixteen sorts each, were particularly admired.

Prizes were awarded as follows : — 1. For best blanched succory, to Mr. James Barnet, as the experimental gardener. 2. For eight finest hyacinths in flower, two blue, two red, two white, and two yellow, to Mr. William Oliver, gardener to the Earl of Rosslyn at Dysart House. No forced strawberries were produced, and no market-gardener produced forced rhubarb stalks. The blanched succory may be regarded as a new salad at Edinburgh. Specimens were, however, sent from the garden of Lord Gray, at Kinfauns, and of Mr. Trotter at Ballenden ; but the carriage had injured them.

The London medal for 1827 was voted to Mr. Archibald Reid, for his essay on the advantage of shallow planting of fruit trees on indifferent subsoils, in preventing canker, &c.

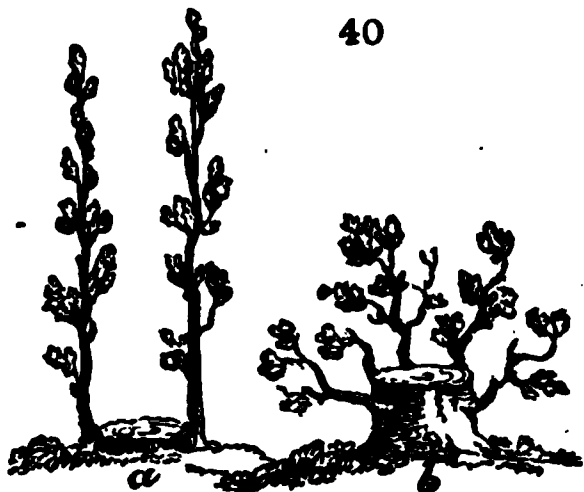
Mr. Thorburn, of New York, a native of Dalkeith [whose remarkable history we shall give in a succeeding number], presented a fine painting of the Boston Elm, a tree of very large dimensions.

Papers of considerable interest, on the keeping of fruit, on training the rose tree, on edible gourds, and on preparing soil for a carrot crop, were read to the meeting. (*Scotsman*, March 8.)

We are glad to see that this Society have taken up the subject of blanched succory. We have little doubt, if the suggestions of our Brussels correspondent (Vol. II. p. 460.) were adopted by either a London or Edinburgh market-gardener, it would pay him handsomely, and succory stalks would become as common in our markets as rhubarb stalks, not one of which were to be seen there a dozen years ago. We have carefully observed Covent Garden market for several winters past, and can assert that, for four months in every year, salad of every kind has not only been scarce and dear there, but not of good quality. Blanched succory, at whatever period of the year produced, can hardly be otherwise than tender, crisp, and well flavoured.

Green and Fruit Market. — Jan. 26. Common kitchen vegetables abundant and cheap. Forced asparagus, 2s. a hundred ; baking apples, 9s. a bushel ; forced sea-kale and rhubarb stalks at moderate prices. — Feb. 23. Apples no longer brought from Clydesdale ; Reinettes, Ribston, and Stone Pippins from Dumfries, 10s. per bushel. — March 8. Great quantities of cabbage, Savoy, and borecole have been brought to market, to sell for planting for the first time this season. As the day was cold, the wind easterly and inclining to frost, most of the plants remained unsold. — March 15. Cabbage plants for planting, from 2s. to 2s. 6d. per thousand ; sea-kale, from 1s. 2d. to 2s. a dish ; broccoli, from 2d. to 4d. a head ; large leeks, 1d. a dozen ; all the common articles in the greatest abundance, and scarcely saleable at any price. (*Scotsman*.)

The Shoots from the Stools of Forest Trees, it is well remarked by Mr. Monteith, may either become crooked branches of little use but as fuel, or beautiful and straight timber trees, according as the old tree may be cut over close by the surface (*fig. 40. a*), or 1 ft. above it (*b*). This important fact ought to be familiar to every forester, and constantly kept in mind by the gardener in pruning fruit trees. The spurring-in system is, to a certain extent, subject to the same law ; long spurs will produce numerous blossom buds, and no long leaf shoots ; short spurs, in Mr. Harrison's manner, few and large buds, with some leaf shoots ; and the spurs totally removed, as in Lawrence's mode of pruning vines (Vol. III. p. 245.),



will produce a similar effect to cutting a tree over close by the surface or collar, and give rise to a number of suckers or leaf shoots.

Gigantic Borecole. — I have now growing in my garden some plants of German greens, which were put in very rich, deep, rather sandy ground, in June last. When they had grown about 3 ft. high, I cut their tops off, and stirred the earth about their roots, drawing it up a little to the stems; the autumn being moist, they soon became covered with sprouts, and have now (Jan 16.) the appearance of a little forest of pine trees. I expect they will be as useful to me through the winter, as Dr. Hamilton's La Vendée Cabbage would be to one of our cows. — *Charles Sidey. Perth.*

ART. III. *Horticultural Society and Garden.*

FEB. 5. — Read. A Plan of transplanting large Forest Trees, by Sir Charles Miles Lambert Monck, Bart. F.H.S. Upon the proper Management of Plants during their voyage from China to England, by Mr. John Damper Parks, F.H.S. Upon improving clayey Soil by burning, by John Wedgwood, Esq. F.H.S. A Review of the fifty kinds of Grapes described by Mr. Speechly, in his *Treatise on the Vine*, with such revisals as subsequent practice shows the necessity of, by Mr. Joseph Thompson, Gardener to his Grace the Duke of Portland, at Welbeck, Nottinghamshire.

Exhibited. A specimen of a very large white sweet Potato, from Morocco, sent by Mr. Sadi Ombark Benbey. Flowers of *Prímula sinénsis*, and of a Camellia, from plants growing in the open ground, from Sir Thos. Dyke Acland, F.H.S. Flowers of Camellias from plants growing in the open air, from Mr. Robert Donald, F.H.S. Sturmer Pippins, from Mr. Alexander Barclay, F.H.S. A fine collection of American Apples, from Jesse Buel, Esq. C.M.H.S., of Albany, New York.

Also, from the Garden of the Society. A plant in flower of *Amarýllis aúlica*; stalks of seedling Rhubarb forced in pots; Asparagus forced in beds in the open ground: variegated Kail; Ox-noble, and large pale red Potatoes; Italian and blotch-leaved Succory forced in pots.

February 19. — Read. Some account of the Charles Apple, by Mr. John Lindley, F.R.S., &c., Assistant Secretary. An account of the species of *Calochórtus*, a genus of American plants, by Mr. David Douglas, A.L.S. Journal of Meteorological Observations made in the garden of the Horticultural Society at Chiswick, during the year 1827, by Mr. William Beattie Booth, A.L.S.

Exhibited. King Dates from Morocco, from Mr. Sadi Ombark Benbey. Fruit of *Gaulthéria shállon*, in spirits, brought from the N. W. coast of America, by Mr. David Douglas, A.L.S. Cuttings of a plant from New Zealand, used by the natives for dyeing, from Henry Seymour Matthews, Esq. F.H.S. Benwell's Pearmain, from John Disney, Esq. F.H.S. Apples unnamed, from Walter Burrell, Esq. F.H.S.

March 4. — Read. An account of a Cherry Orchard, at Hylands, near Chelmsford, the seat of Peter Cæsar Labouchere, Esq. F.H.S., by Mr. John Smith, gardener there. An account of the Manner of training the Vine upon open walls, at Thornery, near Fontainebleau, by Mr. John Robertson, F.H.S. On the Cultivation of the Strawberry, and a Description of a Drill Hoe, by Sir George Stewart Mackenzie, Bart. F.H.S.

Exhibited. Oranges, from the Rev. John Luscombe, grown in the open air. Camellias flowered in the open air, from Mr. Charles Harrison, F.H.S., gardener to the Earl of Egremont, F.H.S. Black Pear of Worcester, and Médaille Saint Germain Pear, from Mr. John Rutherford, gardener of the Earl of Digby. Ne plus Meuris Pear, from Mr. Samuel Knevet.

Beurrée Rance Pears, and small Saint Germain Pears. Bergamotte de la Pentecôte Pears, from Andrew Arcedeckne, Esq. Golden Pippins, Newtown Pippins from America, and Reinette grise, from France. Seedling Apples, from Mr. James Young.

Also, from the Garden of the Society. Sea-kale and Asparagus forced in the open ground. Flat Peach of China. Flowers of Poppy Anemones, Azàlea I'ndica, var. phœnicea, Prunus Pseudo-Cerasus, and several varieties of Crocus.

March 18. —Read. On an Apparatus for heating Garden Stoves by the combined use of steam and hot water, by John Sharp, Esq. F.R.S. &c.

Exhibited. A mushroom grown in a pot, from Mr. Samuel Knevett. Three sort of Camellias, from John Allnutt, Esq. F.H.S. Plants of a double yellow Rose, from Mr. Robert Donald, F.H.S., of Woking, Surrey. Flowers of Camellia reticulata, Reticulated or *Captain Rawes's* Camellia, from Thomas Carey Palmer, Esq. F.H.S. Nonpareils, Golden Pippins, and Newtown Pippins, from America. Bonchrétien Pears from Rouen, Paddington Pears, and St. Germain Pears.

Also, from the Garden of the Society. Asparagus forced in beds in the open ground, as well as Asparagus grown in the open ground, covered with wooden pipes in the German manner, (*Encyc. of Gard.* § 3887.) Sea-kale, common, Italian, and blotched-leaved Succory, forced in pots. Potatoes forced in boxes. Flowers of single Poppy, double and Irish Anemones. Branches in flower of the double Peach, and of Amygdalus macrocarpa, the latter a valuable acquisition to our hardy early-flowering trees.

ART. IV. *Provincial Horticultural Societies.*

THE Botanical and Horticultural Society of Durham, Northumberland, and Newcastle upon Tyne held their first General Meeting for the present year on the 15th of February, at the Queen's Head Inn, Newcastle; and it must have afforded great pleasure and satisfaction to the friends of the institution to witness the excellence in quality, and great extent in quantity, of fruits, flowers, and vegetables then exhibited. The number of apples, the great variety of sorts, and the beautiful state of preservation in which they appeared, surpassed any of the former exhibitions, especially considering the season and the weather. A great many seedling apples were exhibited, principally from the garden of Michael Hall, Esq., of Gateshead, one of which gained the prize, and is a very fine apple, and a most excellent keeper. Mr. Hall named it the Beacon Lough Pippin, from the name of his estate where it was raised: it is a seedling from the Reinette Grise of the French. A very fine dish of mushrooms was sent by David Cram, Esq., of this town; and a splendid collection of single and double hyacinths, polyanthus narcissuses, and early tulips, from the garden of Dr. Headlam, added much to the beauty of the tables. Several bouquets of fine exotics also attracted the attention of the visitors, who will bear testimony to the great improvement made by the Committee in the arrangement of the exhibitions this season, by giving a premium at each show for the best bouquet of flowers; by which means the same spirit of emulation, which has done so much good in the improvement of the vegetables, fruits, and some particular flowers exhibited at the exhibitions hitherto, will stimulate the cultivators to attend more closely to the rarer and more beautiful flowers and plants of each season, and will, to the evident great advantage and delight of the visitors of the exhibitions resident in Newcastle and its neighbourhood, afford them opportunities of seeing the most beautiful and novel horticultural subjects in

the highest state of cultivation, and will indeed make the exhibitions concentrations of the horticultural beauties and rarities of the district. The prizes were awarded as follows : — For the best dish of baking apples, the silver medal to Mr. Thomas Cook, gardener to T. W. Beaumont, Esq., Bradley Hall. For the best seedling apple, the silver medal to Mr. M. Hall, Gateshead. For the best dish of eating apples, the silver medal ; for the best dish of dessert pears, the silver medal ; and for the best dish of sea-kale, the bronze medal, to Mr. Joseph Clarke, gardener to Mrs. Bewicke, at Close House. For the best twenty-five heads of asparagus, the silver medal to Mr. C. Robson, gardener to Dr. Headlam, Jesmond. For the best twelve *Camellia japonica* flowers, the silver medal to Mr. James Scott, gardener to Edward Charlton, Esq. at Sandoe. For the best bouquet of green-house flowers, the silver medal to Mr. William Lawson, gardener to Matthew Bell, Esq., Woolsington. The silver medal was awarded to Mr. John M'Cleish, gardener to A. J. Creswell Baker, Esq., of Cresswell, for an Essay on the Culture of *Chrysanthemum indicum*. (*Newcastle Courant*, Feb. 16.)

In the *List of Prizes* to be given away by this Society in the year 1828, we observe with pleasure, that in each of the lists for the six different days of meeting and exhibition, there is one prize, the silver medal, for “the best original essay, in writing, on the culture or management of any of the above.” It is very well to begin with external matters, and to teach men to grow their own potatoes, clothe themselves decently, and give them a taste for a dry lodging, before teaching them mathematics or history ; but all effectual and permanent improvement must be founded in the mind, and perpetuated to future generations by being committed to writing. Good habits may be produced in individuals, and by them transferred to their offspring ; but circumstances, local or political, may destroy such habits, and the race may revert to barbarism, in the same way as a cultivated plant, neglected for a few seasons, *runs*, as gardeners term it, back to its wild state. In the elements of society there is a perpetual tendency of one principle to counteract another, and the history of past ages shows that there is no security for the improvements introduced by science and experience, but the art of writing and the press. We should wish to see every gardener, therefore, not merely a reading but a writing gardener. The Gardener's Magazine has called forth the pens of a few, who would probably never otherwise have distinguished themselves in this way, and we know that it has contributed both to the honour and advantage of these few. We hope, ultimately, to see in our pages, and in the lists of our contributors published with each volume, the name of every gardener who claims to be in the horticultural world. We wish every Provincial Society would follow the example of that at Newcastle, and not only aim at making gardeners good cultivators, but also good writers. We shall say more on this subject on a future occasion, when we shall endeavour to show how much a gardener's advancement in his profession, and in the general respect of all who know him, depends on, or is connected with, the single circumstance of *the sort of letter which he can write, or the papers which he has written in any gardening publication*. Let the young gardener mark this, and bear it in perpetual remembrance.

The Vale of Evesham Horticultural Society, founded in 1827, have published their rules and regulations, and their schedule of prizes, for 1828. They propose to have five meetings, in April, May, June, July, and September, and their prizes embrace all the leading articles of culture from tulips to pine-apples. The president of this Society is Edward Rudge, Esq. F.R.S. &c. &c., a botanist, learned, wealthy, a good citizen, and an upright man. Our correspondent, Mr. Fulton, (Vol. III. p. 405.) is one of the most active members.

ART. V. *The Management of a Town Garden throughout the Year, in a Series of Monthly Directions.*

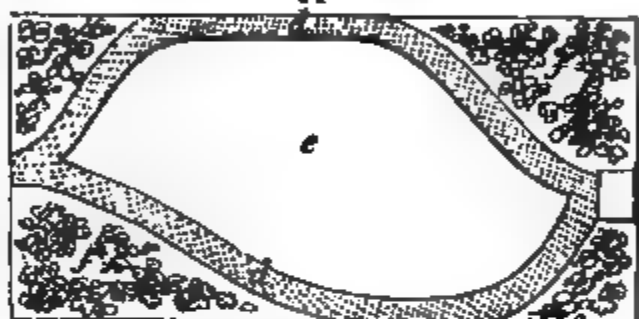
Sir,

ENCOURAGED by your approbation, I proceed to state what I consider to be the best mode of managing a town garden, first giving a view of my ideas on the formation of such a garden. The form in which London gardens are generally seen is a parallelogram, with a walk round (fig. 41. *a*), a border of flowers (*b*), and a bed of turf (*c*). My alter-

tations sometimes consist in altering the walks to a more varied line (*d*), which throws both the grass (*e*) and the flowers (*f*) into more agreeable shapes, or at any rate, into shapes less common; and novelty, I think you will allow, is one source of the agreeable. The one which most suits his taste will of course be chosen by the amateur; and I will merely further observe, that I consider the effect of grouping the same sorts of plants together superior to that of a chance mixture. The above may be



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considered extraneous by some; but as I am to fill and manage the garden, I must entreat your allowing me to have a vote as to its formation.

January.—In this month but little can be done. The walks should be swept, and the beds kept clean, so that all may have as neat an appearance as possible.

February.—Any rough work may be done in this month, but turf and gravel should not be laid till April. I ought here to observe that the turf of a London garden requires to be renewed every year. If frames or hand-glasses be admitted, dahlias and other fleshy-rooted plants may be potted, and sheltered from the cold till March or April.

March.—In the beginning of this month see that the ground be properly trenched, and prepared for planting. A good stock of annual seeds should be procured, and, about the 20th, sown in patches on ground which has been carefully dug and raked. If there be hand-glasses, &c., the tenderer sorts may be introduced. Mignonette, Virginian stock, Lobel's catchfly, poppy, larkspur, purple *cenothera*, snapdragon, lupines, and sweet peas, are good sorts for a town garden, among the hardy annuals; marvel of Peru, Love-lies-bleeding, prince's feather, and red zinnia among the more tender.

April.—Where any trees or shrubs are wanted, this is the season of planting in London. Perennial flower roots may now be planted, such as St. John's wort, *fraxinella*, perennial sunflower, and dahlias, in the open ground. Attend to weeding and watering the seeds sown last month. Turf should now be laid, and gravel walks made, picked, or rolled, as they require.

May.—Keep all things perfectly clean. Attend to your annuals, which will now require thinning and regular watering, and more seed may be sown for late blooming. Plant geraniums and all other ornamental plants, of which great choice may be had at Covent Garden market. A water

engine should be used, and will be found truly beneficial in washing the soot off the plants.

June. — The same directions apply to this month also. Watch and carefully pick off the plants all grubs and insects of every description, and destroy worms, snails, and slugs, by copious waterings with lime water.

To July, August, and September, the directions for May will equally apply.

October. — The frost and soot now attack with deadly force every plant unfortunate enough to find itself in London. Cut off the leaves and stems as they become disfigured or perish. Take up the roots of dahlias, marvels of Peru, &c., and preserve them in dry sand.

November. — Trench the beds two spits deep, and leave the earth in as rough a state as possible, to be pulverised and sweetened by the action of the frost. This is essentially requisite, for the soot will otherwise render the earth sour, and of a fetid smell.

December. — Nothing to be done, unless it be contemplating and laying plans for your spring work.

Should you deem the above worthy of insertion, I will shortly do myself the pleasure of sending you a more particular account of my method of coaxing certain plants to bloom amidst the soot of this or any other town.

I remain, Sir, &c.

MATTHÆUS SYLVATICUS.

ART. VI. *Covent Garden Market.*

CABBAGE plants, or coleworts, from 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; red cabbage, from 4*s.* to 10*s.* per dozen; Brussels sprouts, 1*s.* per sieve; white broccoli, from 1*s.* to 3*s.* 6*d.* per bunch; green, purple and Cape broccoli, from 9*d.* to 2*s.* per bunch; kidneybeans, forced, from 3*s.* to 4*s.* 6*d.* per hundred; Jerusalem artichokes, from 1*s.* 6*d.* to 2*s.* per half sieve; carrots, old, from 4*d.* to 6*d.* per bunch, 2*s.* 6*d.* to 3*s.* per bushel. Parsneps, from 4*d.* to 1*s.* 6*d.*; and red beet, from 1*s.* to 1*s.* 6*d.* per dozen. Horseradish, from 1*s.* 6*d.* to 4*s.* per bundle; red radishes, from 1*s.* to 1*s.* 6*d.* per dozen hands (24 to 30 in a hand); spinach, from 1*s.* 6*d.* to 2*s.* 6*d.* per sieve; sorrel, from 1*s.* 6*d.* to 2*s.* per half sieve; onions, old, from 2*s.* 6*d.* to 3*s.* 6*d.* per bushel; leeks, from 4*d.* to 9*d.* per dozen bunches; shallots, from 4*d.* to 6*d.* per pound; asparagus, from 3*s.* to 9*s.* per hundred; sea-kale from 1*s.* to 4*s.* 6*d.* per punnet; cabbage lettuce, from 4*d.* to 1*s.*; endive, from 3*s.* to 6*s.* per score; celery, from 9*d.* to 1*s.* 6*d.* per bundle (12 to 15); small salads, from 1*s.* 6*d.* to 2*s.* per half sieve; water cress, 8*d.* per dozen small bunches; parsley, from 1*s.* 6*d.* to 2*s.* per half sieve. Fennel, from 2*s.* to 3*s.* 6*d.*; thyme, 2*s.*; sage, from 2*s.* 6*d.* to 4*s.*; mint, and from 4*s.* to 6*s.* per dozen bunches. Mushrooms, from 9*d.* to 1*s.* 3*d.* per pottle; truffles, English, from 8*s.* to 10*s.* per pound. Apples, Nonpareil, from 15*s.* to 36*s.*; Golden Pippins, from 30*s.* to 60*s.*; Golden Knob, from 15*s.* to 24*s.*; French Crabs, from 9*s.* to 12*s.*; and Biffins, from 10*s.* to 14*s.* per bushel. Strawberries, forced, from 2*s.* to 4*s.* per ounce. Pine-apples, from 6*s.* to 12*s.*; and hot-house grapes, from 20*s.* to 30*s.* per pound. Frame cucumbers, from 4*s.* to 10*s.* per brace. Oranges, from 4*s.* to 18*s.*; and bitter oranges, from 5*s.* to 16*s.* per hundred. Lemons, from 3*s.* to 14*s.* per dozen; eggs of silkworms, 1*d.* per dozen, 6*d.* per hundred; garden snails, 4*d.* per quart. Culinary vegetables of every kind abundant and cheap. Salads rather scarce. Brussels sprouts were brought in on the 8th instant in such abundance, that a cart-load was thrown down in the market, and left there by the owner, who could find no purchasers at any price. — *J. G. March 13. 1828.*

ART. VII. *Retrospective Criticism.*

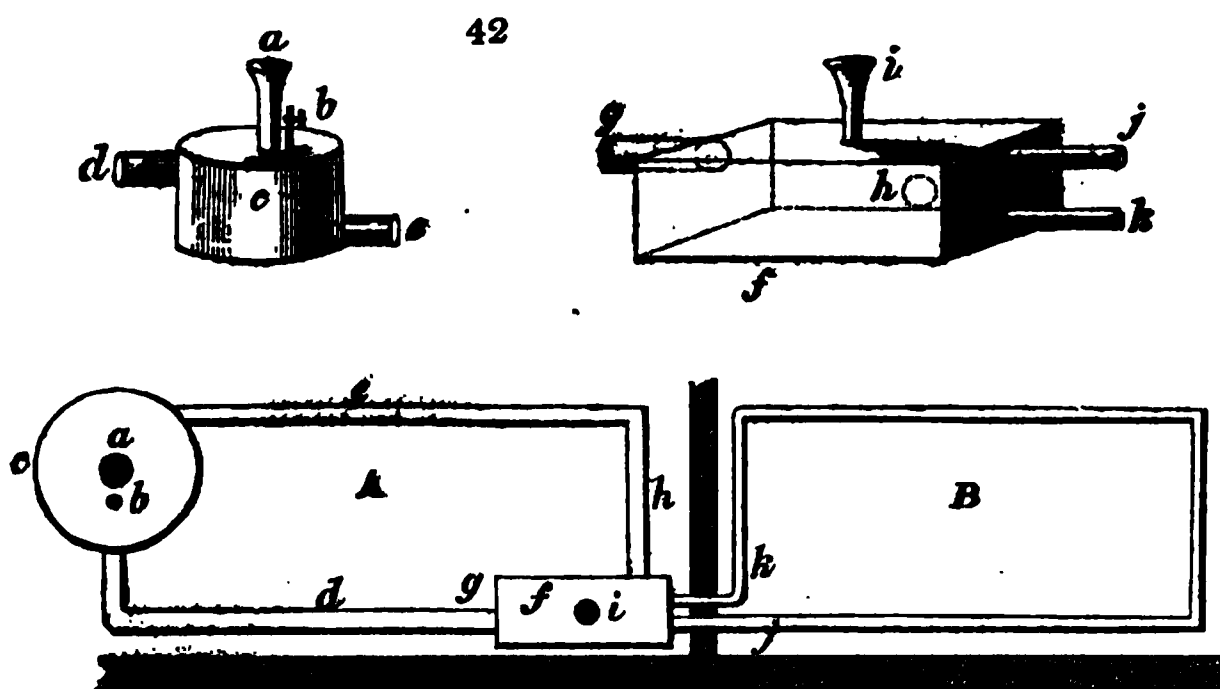
Hot Water in Pipes below the Level of the Boiler.—Sir, When the Tenth Number of your valuable and very necessary Magazine arrived, I was delighted with the process for heating stoves by hot water, and, without delay, gave directions for the apparatus being made, which, with much difficulty in putting up and pulling down several times (as detailed below), at last rewarded me.

My purpose in addressing you is to prevent others from adopting the plan mentioned by you in the 190th page, in which you say, “if the height which the water stands in the boiler and reservoir be equal, and as high as the highest part of the pipes, the circulation between them will take place, however *low* the pipes may descend.” When I read this part of the subject, it seemed to me to be perfectly correct, and that it would not matter how the pipes were placed, provided the water circulated on a level. Accordingly, I bent my pipes so as to have them quite out of the way. (I should previously remark, that I had tried the system for the sake of proving the boiler and pipes, and found it to answer; but the *pipes* were then on a *level*: at that time I did not notice this *most important fact*.) The pipes being thus adjusted, the mason’s work finished, the whole filled with water, and the fire burning well, judge of my disappointment when I found I could not force the heat in four hours more than 4 ft. forward. I kept up the fire, and the water boiled violently; yet the heat did not extend, or extended but very little. I tried various experiments, but to no purpose, and my stove was left that night much cooler than I could have wished. The next day I raised what I term the delivering pipe, and the result gratified me much, for, in ten or 12 minutes, the heat extended nearly through the pipes on one side of the house; but it then began to decline, for from that point the pipes descended to pass under the door of the stove. The boiling commenced again in the boiler, but I could not force the heat forward. The result was, that I was compelled to pull down my masonry, and bring the pipes (being now convinced that, if the pipes were in *any part lower than the bottom of the boiler*, the circulation would not be perfect) to a level with the bottom of the boiler. This was effected, and, in an hour after the fire was lighted, I found my pipes, nearly 60 ft. in length, hot, the heat proceeding from the delivering pipe towards the boiler by the returning pipe. Being then satisfied as to the system, I found the heat not sufficient, and again I had to pull the whole down, and added a reservoir, hoping that the additional quantity of water contained in it would be sufficient; but the temperature of the house was still too low. Again it was taken down (indeed twice more), and the pipes enlarged to 3 in. diameter in the stove. These last alterations crowned my labours with success. I have been thus minute in detailing my experiments, thinking it may show young gardeners what a little perseverance will effect, and that nothing can be expected without it, and also to urge every amateur and gardener to adopt the system. Even were they to take as much pains as I have done in perfecting their object, they would be fully compensated for all their trouble, as nothing can exceed the equal temperature produced by this highly scientific and interesting mode of heating.

The sketches (*fig. 42.*) I send, thinking they may be of some service to those inclined to erect houses, and heat them on this principle. I think three or even four houses might be heated with one boiler, by having a reservoir in each house, and passing pipes, as in the sketches, from one reservoir to the other. Of course the houses would be cooler as their distance from the fire-place increased, and this might be more perfectly effected (as

in my green-house) by having the pipes half or one third the size of those used in the stove.

Since writing the above, I found Mr. R. Evans (who made my apparatus under my own immediate instructions, no one having heard of it in this part of the country) had made a working model, which I have just seen in operation; and to satisfy himself that my plan was correct, he had union joints in the delivering pipe, and also in the returning pipe, so curved that, when turned down, they were below the level of the bottom of the boiler; and the consequence was, the hot water was as much cut off as if a stopcock had been in that part of the pipe; but as soon as the bent pipe was brought up to a level, the heat proceeded forward immediately. This is particularly satisfactory to me, as it proves the thing most decidedly.



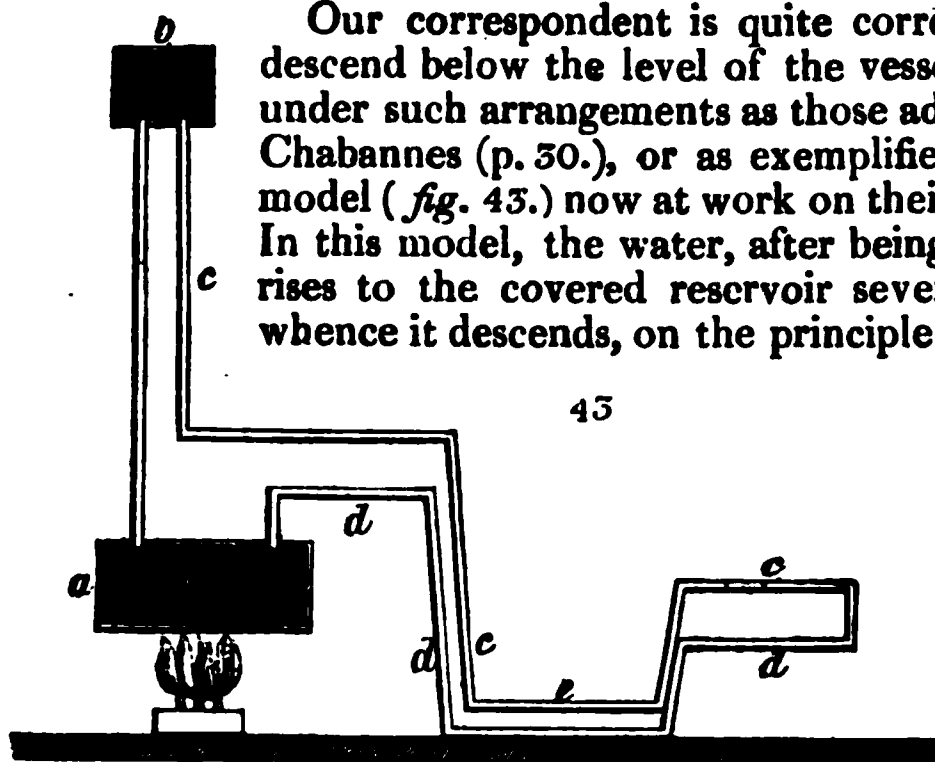
a, Feeder, and to allow for the expansion of the water.
b, Stopcock in the top of the boiler, which serves as a guide to fill the boiler.
c, Boiler.
d, Delivering pipe.
e, Returning pipe.

f, Reservoir.
g, Pipe connected with delivering pipe.
h, Pipe connected with returning pipe.
i, Pipe and funnel like a; a loose cork is placed at the top of each.
j, Delivering pipe to the green-house (B).
k, Returning pipe to the green-house.

The whole apparatus is made of thin copper. The pipes in the stove (A) are 3 in. diameter, and those of the green-house (B) $1\frac{3}{4}$ in. diameter. The size of the boiler, 2 ft. diameter, and 1 ft. deep; and the feeder (a), 9 in. high, and 2 in. diameter, so as to allow a thermometer to be introduced; the funnel, at the top, 6 in. diameter; the reservoir, 3 ft. long, 1 ft. 6 in. wide, and 1 ft. deep. This apparatus will heat a stove of from 20 to 30 ft., and a green-house of the same dimensions.

I beg to apologise for this long communication, but perhaps to amateurs like myself it may prove highly interesting and serviceable. With the hope that it may be so, I am, Sir, &c. — Robert W. Byers. 15. Union Buildings, Swansea, February 4. 1828.

Since I sent you my letter of the 4th inst., on the hot water system, I have been trying to account for the hot water not descending below the bottom of the boiler, and my solution will, I think, be as satisfactory as it is short. Hot water being specifically lighter than cold water, nothing but extraordinary pressure can force the hot water into a place that, by the law of gravity, it could not occupy without such pressure. This pressure not being used, the consequence is, hot water cannot descend below the source of heat. — R. W. B. February 13. 1828.



Our correspondent is quite correct; hot water will only descend below the level of the vessel in which it is heated, under such arrangements as those adopted by the Marquis de Chabannes (p. 30.), or as exemplified by Messrs. Bailey in a model (*fig. 43.*) now at work on their premises, 272. Holborn. In this model, the water, after being heated in the boiler (*a*), rises to the covered reservoir several feet above it (*b*), from whence it descends, on the principle of pressure, by the pipe

(*c c*), and returns to the boiler by pipes considerably below its level (*d d*), which may be bent in any direction. This application may be useful both in the case of dwelling-houses and hot-houses, and it has already been applied by Messrs.

Bailey in the case of a green-house, where it was necessary that the pipes should descend below the pathway (as at *e*).—*Cond.*

Heating by hot Water at Sundridge Park and Russel Place.—Dear Sir, Since I saw you I have seen Mr. Scott, who states that his apparatus in the conservatory at Sundridge Park, was fixed under the direction of the Marquis de Chabannes, in 1816 and 1817, and that he altered it in 1821, having, in the first instance, had the boiler formed of small tubes, and the conducting pipes of lead, neither of which answered. The material now employed is copper, and the boiler is in the form usually employed for generating steam. Mr. Scott farther informs me, that he saw, a year or two before he employed the Marquis de Chabannes at Sundridge, the house of Messrs. Cooper and Balls, in Drury Lane, heated by warm water; and that the Marquis also warmed the house No. 1. Russel Place, by water, in 1815. He has also been informed that Messrs. Boulton and Watt, of Soho, Birmingham, practised this mode of heating upwards of twenty [fifty, see p. 30.] years ago. The mode in which the conservatory, and the hot-houses in the kitchen-garden, at Sundridge Park are heated, well deserves your attention. I assure you, the principle is very ingenious, and the end completely attained. I am, dear Sir, &c.,—*George Cottam. Manufactory, Winsley Street, Oxford Street, Feb. 19. 1828.*

In a letter recently received from Mr. Thompson, the kitchen-gardener at Sundridge Park, he informs us that Chabannes's apparatus answers most completely; and that, by the power of throwing the hot water at pleasure into one or several of the cisterns containing air-tubes, he can, in the coldest weather, raise the air of the house to 100° in a few minutes. What these reservoirs containing air-tubes are, may be ascertained by referring to the review of the Marquis de Chabannes's pamphlet. (p. 29. *fig. 27. g g g*) We agree with Mr. Cottam, who has applied the hot water system under various modifications, that the apparatus at Sundridge ought to be understood by every one who has occasion to circulate hot water under any other than ordinary circumstances.—*Cond.*

Thymelææ, not Thymèleæ.—A botanist, whom we consider the very first authority in accentuation, as in every thing else connected with the subject, informs us that our correspondent N. T. (Vol. III. p. 482.) is wrong as to this word, and that the true accentuation is *Thymelææ*, to which we shall adhere in future.—*Cond.*

The Scotch Elm, which you recommend, I have found, on light sandy soils, very subject to breaking in the bark. [?].—*X.Y.Z.*

Saltpetre is dear, but the effect upon hot sand, in a dry season, is astonishingly great : it doubles the crop. — X. Y. Z.

Salt, on light sandy soils, I have found highly efficacious in destroying the wire worm ; and upon strong clay, in destroying slugs. — *Id.*

Horticultural Society's Catalogue. (p. 373.) — Although Switzer says the Vanguard and the Noblesse are the same, the fruit-foreman at Barr and Brookes's says, from recollection, there is a Vanguard peach, that it is rather more oval, and ripens about ten days later than the Noblesse. I have in some of my old books an account of two new grapes being cultivated by Mr. John Warner, at Rotherhide, in the year 1732, the one the Black Hamburgh, the other, I think, the Black Prince. I have been told that the vine at Hampton Court is the Frankendale, and that by a person whose name would carry great weight, but I have not the liberty of mentioning it. As I have not the Society's *Catalogue*, do they mention a black grape under the name of the Old Gibraltar ? [No.] The vine to which the name is given grows on the front of a house, near the Manor House, Walworth ; it sets its first fruit very like the Sweetwater when grown out of doors, a great many large and some small berries, which I think shows it ought to be forced. The berries I have seen have been larger in size than any damsons that could be picked from a bushel of fruit. Is not the common Muscadine the Chasselas ? I have seen it so called. [Generally the Chasselas of the French is the Muscadine of the English ; but there are several varieties, and what particular Chasselas the common Muscadine is we do not exactly know.] — *Superficial.*, Brixton Villa, January.

ART. VIII. *Queries and Answers to Queries.*

GANSEL'S Bergamot. — Various causes have been assigned for the failure of the crops of fruit of that much esteemed pear, Gansel's Bergamot. Mr. F. seems assured it is owing to the leaves being of a more delicate and silky texture than most of its congeners ; hence it is more liable to be attacked by an insect, which he observed last spring. It would be desirable to obtain the name and history of this insect which infests the flowers as well as the leaves, and to know the best method of destroying it, and preventing its reappearance. — C. B. Scotland, May 1826.

Gardens of Yuen-Ming. — In Buckingham's *Oriental Herald* it is stated that the annual charge of these gardens to the Chinese government is 2,000,000*l.* Can you, or any of your readers, give a description of these gardens, on which are expended one fifteenth part of the whole annual income of the Chinese empire ? — X.

Marshal Tollard's Gardens, near Nottingham, are mentioned in the *Quarterly Review*, for September, 1826, as having been celebrated in former times. Can you, or any of your readers, give any farther account of them ? — X. Perhaps no man is more competent to do this than Mr. Britton, in the review of whose splendid work the notice alluded to occurs. — *Cond.*

Pine-apples. — Which is the best-flavoured pine ? Which is the best pine for winter use ? Which pine will produce the greatest weight of fruit in a given space, in a certain time, say four years ? Which pine will grow to the largest size ? The New Providence, I suppose ? — C. F. W. Faxeley, Nov. 20. 1827.

Crickets in Hot-houses. — I wish to know whether crickets are injurious in hot-houses ; and, if so, how to destroy them. — R. W. B. Feb. 4.

THE
GARDENER'S MAGAZINE,
JUNE, 1828.

PART I.
ORIGINAL CORRESPONDENCE.

ART. I. *On the Gardening and Botany of Spain.* By
DON MARIANO LA GASCA, late Director of the Royal Botanic Garden at Madrid.

(Continued from Vol. II. p. 399.)

PHARMACEUTIC Gardens. — Besides the gardens belonging to the four principal schools of pharmacy already mentioned, most of the general hospitals established in the capital and in the provinces, as well as most of the convents of monks, and various wealthy and enlightened professors of pharmacy, have pharmaceutic gardens, more or less extensive. That of the hospital of Valencia, situated within the city walls, is sufficiently large, and was the principal practical school in which I began the study of plants. At that period it contained a respectable collection, and was managed by a very skilful gardener, named Ramon Garcia, who, guided only by his natural genius, succeeded in acquiring a very uncommon degree of horticultural knowledge. Among the gardens belonging to the monks, that of Santo Domingo de Silos, in the province of Rioja, was the best. It was for many years under the direction of the celebrated Father Saracha, corresponding member of the botanic garden of Madrid, and master of Don Luis Nee, and of the late Don Manuel Rodriguez, professor of pharmacy in the city of Leon, who kept in the same city two gardens of this class, and who enriched himself by the sale of the medicinal plants which are found on the mountains of Leon, most of which were formerly imported from abroad, and sold at exorbitant prices. Having established in that province this new branch of commerce, it is

now followed by his heirs, and by several other enlightened pharmacopolists, whom he himself had taught, and who have similar gardens there.

The royal palaces of Aranjuez, Escorial, and San Ildefonso have also their respective gardens for medicinal plants, whence the apothecaries who are attached to these royal establishments are supplied. The one now existing at Madrid was well situated, attended, and provided, especially before the war of independence.

Pleasure-Gardens. — There are few gardens of this description in the peninsula; for even those that are so called are more of a mixed character, spots within them being set apart for culinary vegetables. I shall, however, include in this class all those which are considered ornamental, notwithstanding they partake of the *utile* as well as *dulce*.

Considered in this manner, there are many in the kingdom; and, generally speaking, I may say with certainty, that, besides the magnificent gardens of La Granja and Aranjuez, and others of less consideration in Madrid and its vicinity, and that of the Escorial belonging to the king, the archbishops, bishops, wealthy prebendaries, the grandees, all the monasteries, many convents of friars and nuns, the titled nobility, and some rich commoners and merchants, all have pleasure-gardens belonging to their palaces and country houses. It may also be said that, in general, there are more of this class of gardens in the maritime provinces than in those of the interior, in the eastern and southern still more than in the northern and western.

The royal gardens of La Granja and Aranjuez are so well known, that it is useless to attempt a description of their magnificence here, because they have already been described in various celebrated works. With respect to those of La Granja, it will be sufficient to mention that many persons believe their *tout ensemble* superior to the gardens of Versailles. In the former are found symmetrical and Chinese gardens; compartments for fruit, vegetables, and medicinal herbs; various nurseries of fruit and forest trees, which serve not only to replace the decayed plants of these gardens, but likewise to make presents to private individuals. There they cultivate various species of saxifrage, anemones, and ranunculuses, peculiar to cold climates, which cannot be cultivated in the other royal grounds, nor even at Madrid. There also they have the *Erythronium dens canis*, and other northern bulbs. Among the culinary vegetables and fruit for the royal household, they have the red and common cabbage, broccoli, and French beans with-

out strings * [pods when boiled not stringy], lettuce, &c. Of fruits there are the strawberry, raspberry, currant, gooseberry, with many sorts of pears, apples, and plums, which deserve to be particularly noticed, on account of their fine qualities, and of the time they are in season. But what really make these gardens more delightful are their fine stately woods of lime, oak, elm, black poplar, aspen, horsechestnuts, and other forest trees; the walks through which are completely shaded in summer, and the whole agreeably cooled by the cascades of water which fall from the elevated summits of the high ground which surrounds this delightful place. The diversified play of the numerous fountains, and the natural features and beauty of the place, make the whole a most enchanting spot. This, too, suffered during the war of independence, from which damage it has not yet recovered.

The royal gardens of Aranjuez are still more extensive and diversified. They are situated in a beautiful and fertile plain, through the middle of which flows the rapid Tagus. Besides many of the native trees and shrubs of the peninsula, they cultivate also many natives of South America, especially those of the family of *Coníferæ* and *Amentaceæ*; the cedar of Lebanon, different species of lime, maple, ash, and various species of *Æsculus*, *Juglans*, *Morus*, *Cratægus*, *Prunus*, and the *Asimina triloba* of Dunal, which last I saw there in blossom, and was informed that it never yields fruit; the tulip trees, the *Magnolia grandiflora* and *glauca*, the *Sophora japonica*, the *Calycanthus floridus*, *Chimonanthus fragrans*, and various others; accounts of which, written by the brothers Boutelou, may be seen in the *Annals of Natural Science of Madrid*, and in the last volume of the *Seminary of Agriculture*, published in that capital, up to the year 1808. The trees, which are planted in ground of great fertility, and irrigated sufficiently, acquire a height and bulk which justly attract the admiration of travellers, and give a majestic aspect to the avenues and walks, among which the Queen's Walk deserves special mention.

A great part of these gardens is destined for nurseries and seed plots for raising trees, most of which are afterwards annually distributed gratis among individuals, and the public establishments.

Another sufficiently large portion divided into squares, rather monotonous in its appearance, is devoted to the cultivation of ornamental shrubs and flowers. There shine various

* Although this kind of bean is much cultivated in Spain, it was not till 1819 I happened to examine it, and found it a new species.

species of rose, *Vibúrnium*, and *Spiræ'a*; the varieties of *Amýgdalus pumila* and *nana*; the rosemary, *Sálvia*, and some curious varieties of the *Cratæ'gus monogýnia* and *Oxyacántha*; the *Mýrtus coccíneus*, and the *Syrínga*; the *Robínia umbra-culífera* and *hispida*, which, when grafted upon the *R. Pseudacácia*, assume the shape of a middle-sized tree; the *Rúscus aculeátus*, box, and various others which we have already mentioned, when speaking of the botanical gardens of Madrid. They also cultivate in great abundance many beautiful varieties of *Tùlipa Gesneriàna*, and the *sylvéstris* and *præ'cox Cav.* (*T. Clusiàna* of Redouté); many varieties of *Hyacínthus orientàlis*, *romànus*, and *moschátus*; many species and varieties of *Narcíssus*, *Lílium*, *Gladiolus*, and *Fritillària*; *Hemerocállis flàva*, *fúlva*, and *cordàta*; many pleasing varieties of *Anemòne coronària*, *horténsis*, and *tríloba*, *Ranúnculus asiáticus*, gillyflowers, *Ibèris*, *Impàtiens Balsamína* there called *Nicaraguas*, *Gomphrèna globòsa*, *Celòsia*, *Amaránthus*, and the *Delphínium Ajàcis* and *consólida*; *Chrysánthemum índicum*, dahlias, some asters from South America, besides *A. chinénsis*, *Ximenèsia* and *amelòides*; different species of *Helianthus*, *Scabiòsa*, *Armèria*; various species of *Cístus*, and a great variety of *Diánthus*.

Besides these and many other ornamental plants, they cultivate in the green-houses many bulbous exotics, different species of *Cáctus* and other succulent plants; the *Geraniàcæ*; different varieties of orange, lemon, lime, and citron trees; *Psídium pyríferum* and *pomíferum*; some exotic trees and shrubs, among which I saw different individuals of the *Cedrèla odoràta*; some of which ought to be sent to the southern provinces, where doubtless they would thrive in the open air, and would be a desirable addition to the native and naturalised productions. I am ignorant whether the pineapple continues to be cultivated as before 1808.

In the gardens of Aranjuez, a great quantity of vegetables and fruit of all kinds, and of esteemed qualities, are reared for the royal household; not only by the natural and ordinary means, but also by artificial expedients, not much known in Spain, though common in Britain. No expense has been spared to procure such things in abundance, as well from the provinces as from foreign countries, for the purpose of replacing such as have degenerated or been lost. Thus these gardens, considered in this light, are an excellent school of practical gardening. I have not by me the books which could be consulted on this subject, nor the notes I myself took on the spot on various occasions; but, even if I had, they would be useless, as the limits of this memoir does not admit of their

insertion. I must, therefore, omit mentioning the many varieties of *Brássica*, *Lepídium*, *Cochleària*, *Lactuca*, *Cichòrium*, *Cýnara*, *Tragopògon*, *Scorzonèra*, *Chondrilla*, *Allium*, *Bèta*, *Spinàcia*, *Chenopodium*, *Boràgo*, *Solànum tuberosum*, *peruvianum*, and *insànum*; capsicums, radishes, celery, pompions, melons, water-melons, carrots, parsneps, cucumbers, parsley, coriander, fennel, mint, sorrel, French beans, peas, and beans. But, of all the vegetables reared at Aranjuez, none exceeds the asparagus for size and high flavour.

The fruits are strawberries, pears, apples, peaches, apricots, plums, medlars, azaroles, mulberries, quinces, figs, and gooseberries.

It may also be mentioned, that, previously to the year 1808, indigo had been cultivated here with great success.

The gardens and plantations of this royal residence, several times the scene of battle during the struggle for independence, suffered considerable damage; to which may be added, the fatal event of the premature death of the assistant gardener, Don Estaban Boutelon, an enlightened man, endowed with a superior genius, and extraordinary diligence; who, after having improved himself by visiting France, Holland, and England, returned to his native country, where he devoted himself to the study of the cultivation of plants with great earnestness and success, and who may be said to have been the soul of every thing done there, rather than his father Don Pablo, who was chief gardener. After the conclusion of the war, however, these gardens and plantations, particularly the orchards, were repaired and improved: but it is to be feared they will retrograde; because, since the death of Don Pablo, which happened in 1818, the direction is in the hands of his grandson, who, however well disposed, is too young and inexperienced for the duties of his situation.

The king has also in the vicinity of Madrid a royal country house; a place of about two leagues in length, and the same in breadth, surrounded by high walls, where, besides several woods, arable land, a few plantations and nurseries of fruit and forest trees, there is a great basin of spring water, and some symmetrical parterres, adorned with statues and fountains.

The Moncloa, surrounded also by walls, is situated on uneven ground. Half of it is devoted to the cultivation of fruit and culinary plants, and the other half to pleasure-ground, which is partly symmetrical, and partly Chinese.

The Prado, a much more extensive place than the royal country house, and kept during the two last reigns as a chase, contains also some pleasure-ground, though not extensive.

To the north of the Prado, and at no great distance from it, between Colmenar Viejo and Fuencarzal, there is another palace called La Quinta del Principe Pio, because this prince made a present of it to the king. It is situated in a narrow valley, whose southern side is planted with vines of muscadine grapes; a delightful orchard embowers the bottom of the dale, and the northern side, facing the south, is laid out with flowers and shrubs, the slopes being disposed in terraces, and decorated with fountains and statues; and lastly, over the summit of the northern hill, is a magnificent semicircular basin, the greater part is roofed in the shape of a shell; the roof and basin representing in some measure an oyster half open.

Among the gardens near the capital, belonging to private individuals, those found in the two Carabancheles, not quite a league from it, deserve attention; particularly those belonging to the Count Miranda and Countess Chinchon, the one belonging to the same Countess at Bobadilla, those possessed by the Duke del Infantado in Chamartin, and above all the one kept by the Duchess of Venevente (known by the name of the Alameda). It is but justice to Her Grace, to state that she has more spirit and taste in botany and gardening, than all the other grandees of Spain put together. Alameda is embellished with fountains, basins, cascades, canals, statues, temples, &c., and well provided with glass frames, in which many curious exotic plants are kept.

Within the walls of Madrid, the most remarkable garden is that of the Buen Retiro, which contains a menagerie. Before the war of independence, it was the most delightful promenade in the environs of Madrid; but nearly the whole of it, with the superb china manufactory it contained, was destroyed at that period; subsequently, however, the king has laid out a great deal of money in repairs, and in giving it a new form, adorning it with fountains and basins, which are new features, and sinking a well to provide a sufficient supply of water, of which it was rather destitute before. The king has also caused a small dock-yard to be constructed, close to the large basin belonging to the place where the barges and royal yachts are built.

The public enjoy the privilege of walking in the greater part of these gardens, (which appear to exceed the Regent's Park in extent,) the remainder being exclusively for the recreation of the royal family: this latter portion is enclosed by a wall, and is laid out in pleasure-ground, orchards, and kitchen-gardens; the pleasure-ground has a feature called a Russian mountain.

Most of the *grandees* in the city have symmetrical pleasure-gardens; other wealthy individuals, as Bringas the merchant, and Martinez the silversmith, have theirs also. Of those which I have seen, that which belonged to the Duchess del Infantado, being formed on uneven ground, and laid out without order or symmetry, is most to my taste, and similar to that which the city of Madrid presented to the late Queen Isabel of Braganza. Most of these gardens have green-houses, for the purpose of keeping succulent and other tender plants during winter, and which are cultivated in groups of allied families, or natural orders.

The open country round Madrid is extremely barren. The banks of the shallow Manzanares, where gardens might be laid out conveniently and at little expense, is inapplicable for such purpose from malaria, which is apt to cause ague in the spring, summer, and autumn months; the inhabitants of Madrid being averse from fixing their villas on such a spot, consequently these banks will remain unoccupied till improved by sufficient drainage.

Cadiz, a few years ago an opulent city, supported, at great expense, many pleasure-gardens, on the small space of bad land which lies outside the Puerta de Tierra; but now they have all disappeared, and in this unhappy city, once the emporium of Spanish commerce, the only gardens left are those of the convents, and some small but very beautiful ones belonging to the Hospital. In this the *Musa sapiéntum* produces well ripened fruit; there I also saw cultivated for ornament, many varieties of *Cápsicum fruticòsum*, *cerasifórme*, *microcárpon*, &c., and the *Clarísia volùbilis* of Abat, which Jussieu has called *Arredera*, a corruption of the Spanish word *enredadera*, which is the general name used for all twining plants. There is in Cadiz quite a passion for flowers, which is gratified in some degree by buying all those brought from the gardens of Puerto del Santa Maria, and with which they convert the very roofs and balconies of their houses into gardens. They cultivate in the open air various species of *Mesembryáanthemum*, *Cactus*, and *Pelargonium*, with many bulbous roots from Peru, Chile, and the Cape of Good Hope.

There are, however, many pleasure-gardens still remaining in the Puerto del Santa Maria, and Chiclana, chiefly belonging to the merchants of Cadiz, which supply that city with abundance of flowers, and where they cultivate many of the African and American plants already mentioned. There I saw, covered with blossoms and half-ripened fruit, two trees of *Erythrina poiánthes* of Brotero, which, they assured me, annually pro-

duced great quantities of seed. I understood, too, from intelligent persons, that the *Poinciàna pulcherrima* is cultivated there; and I well remember seeing the *Adenanthèra Pavnina*, and *Cleméntia nítida* (in the Havannah called *Mate*), with other American plants. I have no doubt, that they might also rear many others producing valuable timber, as the American cedar (*Cedrèla odoràta*), the mahogany tree (*Swietènia mahógani*), and many others; but I ought not to omit mentioning that, in 1823, the learned General Uriarte preserved in his garden that precious insect the Cochineal, which had, from the absence of the illustrious Cabrera, perished in Cadiz.

In San Lucar de Barrameda, there is a very celebrated garden called Del Picacho, the property of the Marquis of Saravia, a Castilian noble, who resides in Cadiz. It is, as the marquis himself informed me, a symmetrical garden, ornamented with fountains and statues; many rare exotics are there, among others some small trees brought from the East Indies in 1819.

In Seville, the love of flowers is as great as in Cadiz, which, on entering, the traveller immediately perceives, from the windows and balconies being filled with pots of *Amarýllis regina*, *belladónna*, and *formosíssima*, *Poliánthes tuberòsa*, *Narcíssus*, tulips, and other bulbs, *Yerba luisa* (*Aloýsia citriodòra Pall.*), *Pelargònii*, and *Jasmíneæ*. Almost every house has a small flower plot, and some have rather large ones, as well within the city as at the country houses in its neighbourhood. The walls of the latter are generally covered with oranges, lemons, citrons, and limes, all entwined and mingled with each other; but the ground is laid out with great regularity, and ornamented with fountains and statues, as are almost all the gardens in the peninsula. The favourite flower at Cadiz, as well as throughout Spain, is the pink (*Diánthus*), of which the varieties are infinite: the lilac, anemone, jasmine, sambac, sweet basil, mirabel (*Chenopòdium scopàrium*), and various succulent plants, are also greatly esteemed; the beautiful varieties of the poppy are also well worthy admiration, especially as this plant may perhaps some day form a profitable branch of Spanish husbandry. The cultivation of the *Mimòsa pudica*, producing great quantities of seed in the open air, is also very general; and I was assured that the *Mimòsa sensitiva* is cultivated in some gardens. There is no house without a few pots of Alexandrian laurel (*Rúscus Hypoglóssum*), or garden in which the sponge tree (*Acàcia farnesiàna*), in Spain vulgarly called *aromo* (spice), is not found; indeed, in the south of Spain it is almost wild. They

have likewise introduced many varieties of fruit trees, which formerly were only to be found in botanic gardens about Madrid. Amongst their creeping plants may be observed many species and varieties of *Ipomœa*, *Convólulus*, the *Ipomœa Quamòclit*, coccínea, and heterophýlla, both *Maurândiæ*; various *Cucurbitææ*, *Phaseolus Caracálla*, *Dólíchos lignòsus*, *Clarísia volùbilis*, indigenous at the Havannah, with many species and varieties of other plants.

In one garden, I saw, growing in the open air, the *Poinciàna pulchérrima* and *Abrus precatòrius*; and my friend and fellow professor, Don José Demetrio Rodriguez, told me that he had often seen two species of *Plumièria* among the gardens of Seville. The garden of the royal palace is curious from the capricious variety displayed in the forms of the masses of shrubs and trees; as are those of an estate called El Retiro, near Malaga, belonging to the Count Villalcazar, which is also remarkable for the great variety of flowers there cultivated, for its lakes, fountains, and beautiful waterworks. Adjoining to the estate of the above-mentioned count are the beautiful gardens of the Prussian consul, in which the coffee tree, though in the open air, produces fruit plentifully. Of this, in 1821, the General Don Francisco Abadia sent me, by the post, two branches loaded with fruit; and, at the same time, informed me that they had many trees indigenous to Cuba, among others the hatchet-breaker, so called from the extraordinary hardness of the wood.*

Alhaurin, a town situated on a hill, at the extremity of the valley of Malaga, and watered by the Gaudaljarre, is not more admired for its picturesque situation and fine supply of water, than for the beauty of its flower-garden. During summer it is much frequented by the rich inhabitants of Malaga. In the romantic city of Grenada, is still preserved the famous palace or Casa del Amor, built by the Moors, who ruled there many centuries. It is situated on a rugged eminence, and, with its spacious and picturesque gardens, chiefly dedicated to the cultivation of fruit and flowers, occupies great part of the mountain. The ground is formed into terraces, and ornamented with statues, canals, fountains, cascades, and lakes. From it may be seen great part of the

* The tree, called in the Havannah Quiebrahacha, belongs to the natural family of the *Leguminosæ*, and is, in my opinion, a new genus, closely resembling the *Hymenæa*, but distinguished from it by its want of corolla, its membranous legume, and being without pulp; the leaves are bilobated, as in *Hymenæa*. In my MSS. it is called *Cauvajàlia*, but I now propose it to be called *Valcarcèlia*, in honour of the illustrious Valcarcel, author of a most valuable work on agriculture.

pleasure-gardens belonging to the city, all furnished with beautiful fountains of the purest water. All the banks of the rivers near Grenada are embellished with numerous *carmenes*, or enclosed gardens. They are chiefly appropriated to the culture of flowers and fruit trees, standards as well as trained; they also have their statues, cascades, and groups of figures. A garden, to be denominated a *carmen*, must be situated on the bank of a river.

Cordova, whose inhabitants are now almost as ignorant, as they were formerly illustrious for their learning, at a time too when the rest of Europe was plunged in the deepest barbarism, does not show the same taste for gardening as its neighbours of Seville and Grenada, notwithstanding it possesses equal facilities: it has, however, a few, of which those belonging to the bishop are respectable. In Murcia and Orihuela de Segura a taste for fruit-gardens prevails: some, however, in Murcia, those of the Countess de Valle St. Juan, the Marquis of Espinardo, the silk manufactory, and some others, are worthy of a visit; and in Orihuela those of the Marquis of Rafal* and the Count of Arneva, and particularly one possessed by the marquis in Beniel, a town situated hardly a league to the westward of Orihuela, though this garden, from the number and variety of plants naturalised there, deserves the name of botanic rather than that of pleasure garden. In this I saw many of the plants already enumerated in my descriptions of Valencia, Puzos, Principe Don Carlos, Puerto de Santa Maria, and Seville; but the sight of so many *Pelargonii*, *Cacti*, *Aloës*, *Agaves*, *Euphorbia aphylla*, *Cotyledon orbiculata*, *Portulacaria zeyheri*, and other American, African, and Asiatic plants, all growing together as if under their native skies, surprised me most agreeably. I was equally pleased to see a garden hedge composed entirely of the fragrant Yerba luisa (*Aloysia citriodora*), the leaves of which are frequently used, in Spain, to make an infusion in the manner of tea, of great service in stomachic complaints. In the low irrigated lands of Murcia and Orihuela, there is not a house or cottage which has not its garden well stocked with carnations, double mulberry-coloured wallflowers, Job's tears, *Canna indica*, *Jasminum grandiflorum*, *Rosmarinus* and *Salvia officinalis*, *Ocimum basilicum*, *bullatum*, and *minimum*; and *Artemisia arborescens*.

* In this garden I saw, for the first time, bearing blossoms and fruit, the *Cactus cylindricus* of Lamarck; and I likewise examined the *Anona Cherimolia*, which bears plentifully most delicious fruit, each weighing from four ounces to two pounds!

In every cleft of the rocks which bound the garden of the Bishop of Murcia, on the mountain of Saint Catalina, a league to the south-east of the city, I saw growing, as if wild, the *Jasminum grandiflorum*, which flowers throughout the year. The *Arum Colocasia* is also met with in many gardens, and probably may, ere long, be cultivated as an edible root in that country.

In the city of Valencia, the most celebrated garden is that of the Baron Manuel; those of the Marquis la Romana, the Plaza de St. Domingo, the Capuchins, the Nuns of St. Cataline, and the newly erected royal gardens, are worthy of note. Perhaps, there is not throughout Spain a people so passionately fond of flowers as the Valencians: many employ themselves exclusively as florists, and find it a profitable employment. It is true, they cultivate but few species; their collections consisting only of wallflowers, roses, anemones, violets, jasmines, and a few lilies; but from these they have obtained such a multitude of varieties, particularly pinks, anemones, and wallflowers, that they must be considered proficient in floriculture. The carnations of Valencia are eagerly sought for, and were it not that the communication with the interior is tardy and difficult, the growers would derive considerable profit from the sale of this plant alone: it was only there I observed pinks of a blue colour; those of straw and lemon colour are common. The only gardener in Madrid who gained a livelihood in this way was a Valencian.

The environs of Barcelona are embellished with many country houses called *torres*; as in Sarragossa, their pleasure-gardens are also so called: such are regularly laid out, and as usual adorned with sculpture and fountains.

Their commercial intercourse with France and Italy enables them to procure the scarce ornamental plants and flowers with facility and despatch. The garden of the Marquis of Lluçà, called the Labyrinth, three miles distant from Barcelona, of Don Antonia Gironella, merchant, and that of the Capuchin Friars of Sarrià, scarcely a league distant from the above city, are greatly superior to any of the others. The first of these comprises the greater part of an estate a mile in circumference; and it has, besides an extensive labyrinth formed by hedges of clipped box, another portion of ground exclusively appropriated to the cultivation of flowers and ornamental shrubs, delightfully interspersed with cascades and other waterworks, and the most exquisite marble statues of Italian workmanship. There is on the same estate a fine wood, with a fruit and culinary garden. The

garden of Gironella is still more famous than the last-mentioned; and many eyewitnesses have assured me, it is laid out with great taste. It has a labyrinth formed by streams of water, the waterworks are in greater variety, and any person is allowed to visit them. The garden of the Capuchins of Sarria forms a complete landscape of the most sombre character, being chiefly composed of cypress and other dark-foliaged trees: it contains many waterworks, and some clay figures executed by the monks-themselves. The whole forms a retreat well calculated to awaken religious feelings, and has convenient walks for the fathers during the sultry heat of midsummer, impervious to the rays of the sun. Within the city of Barcelona there are many pleasure-gardens; the best belongs to the captain-general; it is situated on the walk of the Esplanade, and always open to the public.

I have now enumerated all the gardens of Spain which I have either visited, or had described to me by persons worthy of credit. They are not, however, the only ones; as, besides those mentioned at the beginning as belonging to the bishops, &c., there are many very celebrated ones in Castile: in Valladolid, that of the Marquis of Revilla; and of the Duchess and Countess of Benaventa, in the town of the same name, from which she takes her title; also that of the Duchess of Alba, in Predrahita, already mentioned. There are also several others well worthy of notice in Navarre, Galicia, and the Biscayan provinces.

MARIANO LA GASCA.

Camden Town, February, 1827.

ART. II. *On the System of examining and giving Characters to young Gardeners in Denmark.* By PETER LINDEGAARD, Esq. F.H.S., Gardener to the King of Denmark, at Rosenberg. Translated by M. JENS PETER PETERSEN, formerly of Lee's Nursery, and the Chiswick Garden, and now of Copenhagen.

It is probably more than a century since the custom was first introduced in Germany, and other Northern States, that those who devoted themselves to gardening should serve an apprenticeship of three years in a royal garden. After that period was completed, they received an indenture, elegantly written on parchment, with the head-gardener's name, or sign and seal attached. This is still customary all over Germany

and some parts of Denmark, and such gardeners are called *Kunst Gartnere* (artist-gardeners).

Gardeners who have not acquired such an indenture are not able, when travelling, to get work either in Germany or Denmark. In England, France, and Holland, such indentures are of no use to a travelling gardener; and yet many German and Danish gardeners have visited the latter countries with much success, particularly England and Holland. Before the Revolution, Holland was the school where young gardeners might become active and skilful men; though it is not meant to be said that there was then no other country where gardeners might acquire a good knowledge of their art.

But my object at present is to prove how useless such an indenture is, and how little it can contribute to improvement in gardening, unless it were given by a society, who might impartially prevent the abuse of such instruments. An apprentice, after having served his time as before-mentioned, gets an indenture, no matter whether he has learned a little or very much, so as his conduct has been tolerably good. The indentures are all alike, the only difference is the time and place where the person has learned, and this is not sufficient to prove the ability and character of a gardener, which is always required by those who wish to employ one. Indentures of that kind, however, have been out of use in Denmark for these twelve years past.

My honourable friend, M. Holböll, royal botanic gardener at Charlottenberg, M. Hornemann, the professor of botany, the late royal gardener at Fredericksberg (whose place is now filled by M. Wolf), and myself, met together one day, and agreed to carry a plan into execution, viz. an examination for gardeners. The time of examination was appointed to be twice a year, April and October. The suggestion was approved of, and the applicants were given a rescript to appoint the members of the commission, and how to act on the examination. The committee must appoint the day of examination, and make it publicly known in the newspapers, in order that the young gardeners who may think themselves competent to submit to a public trial, may send their application to the committee, along with a certificate of their ability and conduct from the head-gardener where they have learned. The candidates are examined in all the different branches of gardening, the judgment of which is divided among the three royal gardeners:—M. Lindegaard, in the construction of forcing-houses, hotbeds, &c., their management, and that of all sorts of fruits and vegetables suitable for forcing; M. Holböll, in the laying out of pleasure-grounds, flower-gardens, and the cultivation of

plants belonging to this department and floriculture; M. Wolf in kitchen-gardens, orchards, nurseries, and the culture of all the hardy fruits and vegetables known in this country. M. Wolf, who is reckoned one of our first landscape-gardeners, has the examination of the department of laying out pleasure-grounds, and M. Holböll has taken the examination in that department of kitchen-gardening. The candidates have to exhibit drawings and plans of pleasure-grounds, forcing-houses, &c., and to explain how they might be laid out and constructed to the best advantage. The committee have a secretary, who, during the examination, marks down all the questions and answers, and so each does for himself. When the examination is over, all the auditors and candidates leave the room, the questions and answers are compared and considered, and the votes given accordingly.

The degrees of character are three; viz. the first, very good; the second, good; the third, indifferent.

The candidates are again called into the room, and their respective characters proclaimed by the president, Professor Hornemann. Every gardener afterwards receives a certificate with his character as declared, and all the committee sign and seal it. Gardeners who have not acquired such an indenture are not able to get the charge of a royal or public situation in respect to gardening, and every private gentleman of any consequence, who wants a gardener, always asks if they have got such an indenture. Consequently, the ambitious young gardener is obliged to be attentive to his business, so as at least not to get the worst character, which, however, is still often the case with many.

An improvement in the examinations has been made during the last five years: a day or two before the trial, the candidates have an examination in writing; half an hour is generally allowed to every question; they get the questions proclaimed by the secretary, who has received them from the committee, and the answers are all returned in writing, which must be done in the time mentioned; and the secretary, who is in the room all the time, must be accountable for no one having any books or papers with him in his pocket, nor are they allowed to speak to one another, nor to go out till they are all done.

I am, Sir, &c.

PETER LINDEGAARD.

Copenhagen, Dec. 29. 1827.

Note by M.' Petersen. — When theory and practice are united, and operate to the effecting of a certain purpose, it is then to be hoped that such a plan or institution will be of real

use. Yet I do not think such a plan would answer in a country like England, where the principle of liberty is the foundation of all your institutions; but I know every thing connected with horticulture is interesting to you. In 1823, I was examined, and gained the best character.

I remain, dear Sir, &c.

JENS PETER PETERSEN.

Copenhagen, Dec. 29. 1827.

ART. III. *Outlines of Horticultural Chemistry: — Manures.*
By G. W. JOHNSTON, Esq., of Great Totham, Essex.

(Continued from Vol. III. p. 404.)

SOME manures ameliorate a soil by absorbing moisture from the atmosphere. This property is at least as beneficial to ground that is aluminous as to that which is siliceous; for it is equally useless to either, during such periods of the year as are characterised by a plentiful deposition of rain, but in the droughts of summer, when moisture is much wanting to plants, it is beneficial to both: in very dry seasons it is even of greater importance to clayey soils than to light ones; for vegetation on the former suffers more from long-continued drought than on the latter, inasmuch as that moisture being equally exhaled from each, the surface of the clayey soil becomes caked and impervious to the air, which is the only grand source of compensatory moisture that is available to the languishing plants, and which is more open to those which grow on light, and consequently more pervious soils.

The following table of the comparative absorbent powers of many manures, &c., is chiefly extracted from *An Essay on the Uses of Salt in Agriculture, &c.*, by my brother, Mr. C. Johnston: —

	Parts
Horse dung, evaporated previously to dryness, at a temperature of 100°, absorbed during an exposure of three hours to air saturated with moisture at 62°	- 145
Putrefied tanner's bark, under similar circumstances, (66°)	- 145
Unputrefied ditto	- 115
Cow dung	- 130
Pig ditto	- 120
Sheep ditto	- 81
Pigeon ditto	- 50
Refuse marine salt (60°)	- 49½
Soot (68°)	- 36

1000 parts

						Parts
1000 parts	Burnt clay	-	-	-	-	29
	The richest soil (in one hour)	-	-	-	-	23*
	Coal-ashes	-	-	-	-	14
	Lime (part carbonate)	-	-	-	-	11
	Crushed rock salt	-	-	-	-	10
	Gypsum	-	-	-	-	9
	Chalk	-	-	-	-	4

The absorbing power of a manure is much influenced by the state in which it is presented to the atmosphere. In a finely divided state, mere capillary attraction assists it; hence, as we have before insisted, the importance of keeping the soil frequently stirred, by hoeing, &c. The most ancient Roman agriculturists were aware of this. "What is good tillage?" says Cato, in his *De Re Rustica*. "To plough. What is the second thing? To plough. The third is to manure." But a mere mass of cotton, by means of capillary attraction, will absorb moisture from the air, yet it parts with it at a very slight elevation of temperature; it is of importance, therefore, to ascertain which are the manures that not only absorb but *retain* moisture powerfully. The following results of my experiments throw some light on this point: —

						Minutes
10 parts	Pig dung, evaporated to dryness, at a temperature of 106°, and then moistened with 6 parts of water, required for being reduced to dryness again, at the above temperature					135
	Horse dung, under similar circumstances					90
	Common salt					75
	Soot					75
	Rich soil					32
	Chalk					29
	Poor soil (siliceous)					23
	Gypsum					18

These experiments point out a criterion by which we easily ascertain the comparative richness of any two given soils or manures; the most fertile will be the most absorbent and retentive.

Some manures increase the growth and vigour of plants, by stimulating their absorbent and assimilating organs. This will only be admitted by those, who, like myself, allow that plants are gifted with sensation; space cannot be permitted me to argue as I would to those who dissent from this opinion, but a few facts, as enumerated in my *Outlines of Botany* (*Gard. Mag.*, Vol. II. p. 338.), will, I think, demonstrate that it is impossible to deny that they possess some degree of sensation. "The Venus's Fly Trap (*Dionæa muscipula*) has jointed leaves, which are furnished

on their edges with a row of strong prickles. Flies, attracted by honey which is secreted in glands on their surface, venture to alight upon them; no sooner do their legs touch these parts, than the sides of the leaves spring up, and locking their rows of prickles together, squeeze the insects to death. The well-known Sensitive Plant (*Mimosa sensitiva*) shrinks from the slightest touch. *Oxalis sensitiva* and *Smithia sensitiva* are similarly irritable, as are the filaments of the stamens of the berberry. One of this sensitive tribe, *Hedysarum gyrans*, has a spontaneous motion; its leaves are frequently moving in various directions, without order or cooperation. When an insect inserts its proboscis between the converging anthers of a kind of Dog's-bane (*Apocynum androsæmifolium*), they close with a power usually sufficient to detain the intruder until his death." The more I study the phenomena of vegetation, the more I feel convinced on this point. How often have I heard a farmer reply to an observation upon the tardy growth of turnips, — "They will not grow apace, until their leaves are large enough for the wind to take hold of them;" and this is only because plants cannot be healthy and vigorous without exercise. Mr. Knight found that trees which were regularly shaken every day in his green-house, grew more rapidly and strong than others which were kept still.

The stimulating powers of excrementitious manures arise from the salts of ammonia they contain. Sir H. Davy found vegetation assisted by solutions of muriate of ammonia (*Sal ammoniac*), carbonate of ammonia (*Volatile salt*), and acetate of ammonia. Night-soil, one of the most beneficial of manures, surpasses all others in the abundance of its ammoniacal constituents in the proportion of 3 to 1. It may be observed that the nearer any animal approaches to man in the nature of its food, the more fertilising is the manure it affords. I have no doubt that a languishing plant, one, for example, that has been kept very long with its roots out of the earth, as the orange trees imported from Italy, &c., might be most rapidly recovered, if its stem and branches were steeped in a tepid, weak solution of carbonate of ammonia; and, when planted, an uncorked phial of the solution were suspended to one of the branches, to impregnate the atmosphere slightly with its stimulating fumes.

(*To be continued.*)

ART. IV. *On Salt, as a Manure, with the Details of various Experiments.* By Mr. ROBERT FORBES, of the Pinefield Nurseries, near Elgin.

Sir,
For several years past I have occasionally entertained the idea of attempting the use of salt as a manure, but it was put off from time to time, without being carried into effect; the scarcity of litter last winter, and the consequent diminution of the dunghill, led me to think seriously of trying it with some crops this season, and I accordingly purchased a quantity of salt for that purpose.

Your Magazine for January, 1827, (Vol. II. p. 6.) recommended experiments with salt to a number of gardeners and farm-overseers in different counties in England, and I have every reason to suppose (if your recommendation has been attended to) that you are, by this time, in possession of more valuable information, and more decided conclusions, than my present communication can furnish, in which case I shall have no objection to rank amongst your rejected contributors. Aware that several farmers in my neighbourhood had used salt, I made enquiry amongst them regarding its effects, and the proportion applied to an acre. Its effects had either not been observable, or appeared rather injurious, and no attention had been paid to the quantity applied. One farmer alone thought his crop improved by a top-dressing of 15 bushels of salt to a Scotch acre, with the usual allowance of manure for barley. I therefore set about satisfying myself by actual experiment, and gave up the idea of using it to any extent, as a substitute for manure, till after the result of these experiments should be known. This result I now subjoin:

Manured with Salt, at the Rate of			2 Tons per Acre.*	1½ Tons per Acre.	1 Ton per Acre.	½ Ton per Acre.	Mode- rate Dung- ing.
Onions	{ sown March 20. taken up September 6. }	produced in Imperial lbs.	8	8½	10½	15	20
Carrots	{ sown April 23. taken up October 31. }	ditto.	13	17	20½	24	28
Turnips	{ sown June 19. taken up October 31. }	ditto.	30	32	30	27	34½
Potatoes	{ planted April 23. taken up September 9. }	ditto.	11	11	12	14	24½
Barley	{ sown June 5. cut October 9. }	ditto.	2 15½	3 8½	3 10	3 12½	3 15
Mangold Wurtzel	{ sown April 22. taken up November }	ditto.	39	40	41	40	40½

* The Scotch acre is here used, and the proportion which the Imperial acre bears to the Scotch, is (according to the best authority) as 1 to 1·26118345; but it will be sufficiently exact, for any ordinary purpose, to consider four Scotch acres as equal to five English or Imperial, in which case 2 tons of salt to a Scotch acre would be in the proportion of 32 cwt. to an English.

I have chosen this form of showing the results, as the most concise I could adopt, for bringing at once under the eye the whole of the process. All the crops, with the exception of the onions, were sown in drills, and thinned and cleaned in the ordinary way. In addition to the above I tried salt as a top-dressing to turnips, immediately after sowing; the first shower which followed dissolved the salt, the sunshine formed it into a crust, about the thickness of a shilling, and the plants either never came up, or immediately died away.* The foregoing experiments will also in some measure show the different proportions which one crop bears to another in point of weight, as the same quantity of land was sown with each article. Mangold wurtzel will be seen to be the heaviest crop; and, as it has never been sown to any extent in this country, farmers should take it into their immediate consideration: cattle are extremely fond of it, and, in some cases, will eat it in preference to turnips. Pigs eat it greedily, and seem to prefer it to every other sort of raw food, except carrots. The tops were cut for the cows twice in the course of the summer, and the plants seemed the better for it. One fault it certainly has, namely, a tendency to run to seed; but this might be obviated by thinning partially when very young, and leaving plenty of plants to spare at the second and final thinning, and at the same time taking care not to sow too early. Salt seems to agree with it better than with any of the other crops above-mentioned, and scarcely any difference could be observed on the crop, when growing between the compartments manured with salt and that manured with dung, and, when actually weighed, the difference was trifling, and rather in favour of salt. From the above statement, you will observe that the crops in

* This will serve as an answer to the query of Umbratus (*Gard. Mag.*, Vol. III. p. 121.); but if Umbratus will look into Dickson's *Husbandry of the Ancients*, vol. ii. p. 258., he will find a quotation from Columella, directing that "*turnip seeds be mixed up, the day before sowing, with soot, and sprinkled with water*;" at p. 261. another from Palladius, to nearly the same purpose; and one from Pliny, stating, that the husbandman, while sowing turnips, "*prayed that they might grow for themselves and neighbours*;" and, moreover, "*that the sower was naked*." Both Columella and Palladius affirm that the recipe effectually prevents the destructive havoc of the turnip-fly (or fleas, as Umbratus terms them), and the thing seems plausible enough. The story of the "*naked sower*" puzzled me extremely, till after reading the query of Umbratus, in which he terms the little animals "*fleas*;" might it not be for the purpose of preventing the noxious vermin from lodging in his clothes? And, although Pliny does not tell us so, it is probable that the sower, when his work was finished, went to the nearest pool, and, having, like Allan Ramsay's tod (fox), and for the same purpose, performed an ablution, marched to his domicile, and resumed his habiliments.

general are lighter, in proportion as the quantity of salt is large, which leads directly to the conclusion, that salt is injurious to vegetation, and it certainly is so when too freely applied, but, in small quantities, I think it useful. The way in which I think it most calculated to do good is, when mixed up with the dunghill in trenching, in about the proportion of from twenty to twenty-eight parts of salt to a cubic yard of the untrenched dunghill, and although it may not increase the apparent bulk of the crop, it will improve the quality. The barley, manured with salt, appeared to me to be heavier in the grain, in proportion as the quantity of salt was large; and I found, by selecting at random from the barley grown with salt at the rate of 2 tons to an acre,

100 grains weigh exactly	{	103 grains, grown on salt, at $1\frac{1}{2}$ ton per acre.
		106 grains, grown on salt, at 1 ton per acre.
		108 grains, grown no salt, at $\frac{1}{2}$ a ton per acre.
		103 ditto, grown on pigeon dung; and
		110 ditto, grown on common compost dung.

I am not chemist enough to analyse my barley, and recover from it the salt taken up in its growth, nor will I enter into any argument with your more learned correspondents, as to whether salt is the food of plants, or only a stimulus; I merely state the results of a few simple experiments, minutely made, and easily understood. I hold a medium belief between the opinion of those who say salt is of no use, and of those who affirm it to be the *ne plus ultra* of manures. Salt, mixed with our food, is agreeable, and, I dare say, useful to the consumer, but it does not follow that any man would be long preserved in health without other sort of aliment.

Last summer I had collected a large heap of couch, and other weeds, from the ground on which a crop of turnip seeds had been grown, and the weather being showery, it grew into one mass of roots, with a crop of grass on the surface that might have been made into hay. I applied over the whole of the heap a thick covering of salt, and, in less than a week, not a vestige of vegetation was to be seen, and when turned over soon after, and a new surface exposed, no second growth appeared; it is now a mass of rich mould, and I purpose mixing it up with dung. Should you think these remarks worth insertion in your very useful Magazine, they are very much at your service, and I am in the meantime, with sincere respect,

Sir, your most obedient servant,

ROBERT FORBES.

Pinefield Nurseries, near Elgin, Jan. 1828.

ART. V. *On the Custom of paying the Wages of Journeymen Gardeners, and Agricultural Labourers, on the Saturday Night or Sunday Morning.* By H. C. W.

[WE have received a very sensible and reasonable letter on this subject from a benevolent-minded contributor, who has himself set an example worthy to be followed by every master or steward in the kingdom. Having ourselves often advocated the practice recommended, it is unnecessary to advert to it here, farther than to unite with the writer in condemning the impolicy, not to say the cruelty, of the custom, and to agree with him in the conclusions he has drawn from it. We quote the concluding part of his letter.]

THE method which I have adopted for several years past is, to pay all my labourers and mechanics on the Friday night; thus giving opportunity for them or their wives to go to the best market on the Saturday; and, by so doing, often to save to the amount of 10 per cent. I always provide small money for this purpose myself, and consequently avoid the bad plan of paying several with a large note, and thereby driving them in companies to the public-house, and laying them under obligations to the landlord. The iniquitous custom of having a pay-table at an inn I also disapprove, as leading to unnecessary expense, and sometimes disorder. This arrangement, so easy for every superintendant to adopt, has gained me the respect and thanks of the men; and its consequences are sufficiently evident in their appearance, comfort, and conduct. I therefore strenuously, yet respectfully, recommend my plan to my brethren and others, being convinced of its utility as well as necessity. I am, Sir, &c.

Dec. 14. 1827.

H. C. W.

ART. VI. *Remarks on the present Style of Ornamental Gardening in this Country, and Suggestions for Improvements.* By an AMATEUR.

Sir,

IN sending to you the following remarks on our present style of laying out our pleasure-gardens, with suggestions on the improvements of which that style is capable, I am not prompted by any supposed superior judgment or taste of my own in such matters; nor do I conceive, or even wish, that your intelligent readers should consider themselves as called upon to follow and act upon my opinions. My object is simply to draw the attention of the wealthy and noble possessors of

our large country houses to the subject, and to show them, as far as I am able, how very much more than has yet been attempted in ornamental gardening may be done, with the best possible effect, the greatest convenience, and also at no very enormous expense.

I am induced to offer these remarks to you from the conviction I have been led to entertain, for the last two or three years, in my wanderings about this highly gifted corner of the globe, that the taste of our countrymen is rapidly improving, and that the thirst for embellishment of garden ground is, with many sensible and well informed gentry, a growing source of amusement, recreation, and delight.

I could, indeed, have wished that a more able hand than mine had taken up this interesting subject, and that your valuable pages had, before this, afforded that communication to the world which I thus imperfectly transmit to you.

In the first instance, let me be understood to be a zealous admirer of what is justly denominated the English style of gardening. For many of the purposes for which it is adopted, I do not think it possible that there could be, generally, any style so completely worthy of the admiration it has so universally gained; nor, for the comfort and convenience, or the elegance and beauty, of our small country places, could any general style be so appropriately adapted. But when I say this, Sir, I consider that I am giving it all the merit it deserves, and that, as a style, to be so rigidly followed as it is, with the same serpentine of walks, clumping of shrubberies, and kidney-shaping of flower-beds, it is not calculated to add to the beauty, the splendour, or the convenience and comfort, of our country residences on the larger scale.

It will be acknowledged, no doubt, that the great and primary object in all laying out of ground, and particularly that which immediately surrounds a country residence, is to create such a cheerfulness of scene, such a courting, if I may so call it, of sunshine about us, and from our windows, as will induce us to wander forth into the air at all seasons of the year. The more this feeling is impressed upon us, and the more the desire to loiter forth is excited in us, by so much do I consider the purpose of a pleasure-garden to be answered. Such a scene presented to our view from our windows as will lead, nay, compel us often to

“ Deceive the tedious time,
And steal, unfelt, the sultry hours away ;”

such a scene as will induce us to

“ Court the balmy air of heaven ;”

is certainly that, of all others, which, in the disposition of their garden grounds, all would most desire to gain. And this, Sir, I affirm, is not attained by the style of gardening we have hitherto almost universally adopted in this country. Our climate is so variable and uncertain; so much more of winter than summer weather is allotted to us throughout the year; so often is the sun obscured by clouds for the greater part of many whole days together; so much are we visited by wind and rain; so numerous, in short, are the evils attendant upon our out-of-doors amusements, that, to secure such portions of the day as most conduce to our health and comfort, by the inhaling of fresh air, should be the first object of our care; and this can be gained in the most efficient way alone, by the disposal and formation of our pleasure-gardens. When I declare myself a zealous admirer of our English style, with reference to small gardens, I must be allowed to make a reservation in favour of some large ones, where the superior taste of the proprietors of them have forsaken the beaten path, and have created such scenes as Nature's self might envy. Such, I would say, Blenheim * was, and White Knights, and Dropmore, and Red Leaf are. But these are exceptions to the general rule, and, to a certain extent, partake of that style I propose to recommend. They hold forth every inducement to wander among their groves, and lawns, and gaudy flower-beds; they are captivating at first sight; they are beautiful in fine weather. In summer, in such a summer as we seldom see in England, then it is that they are every thing which in a garden we most admire; but reverse the season and the scene, what are they? I will not say in winter only. What are they for the greater part of the year? Do dripping shrubs, do wet grass, and swampy ground, and flower-beds, known only as beds for flowers by their dingy mould, contrasted with the yellow lawn, do all, or any one of these, invite us into the open air? Do we not rather turn our backs upon them, stir up

* The taste of the noble proprietor of this princely place, however well it may have been exerted at White Knights, seems either to have fallen rapidly into decline, or never to have been sufficiently elevated to bear application to a garden on an extensive scale. The incalculable mischief done to the pleasure-gardens of that splendid palace will witness this remark. Where the gardens were formerly laid out to accord with the adjoining pile, where once long and broad gravel walks, lined by lofty and regularly planted exotic shrubs and trees, led the eye to the longer and loftier avenues of the park, are now little meandering paths, little arbours or berceaux, little clumps of all shapes, little shrubs, the greater part of the old, large, and handsome evergreens being cut down; and this littleness attached to the finest private residence in the world; and "the Despoiler" cited [where?] as one of the most scientific and accomplished of our landscape-gardeners!

our fire, resume our book, and sit at home? The first and chief object of a pleasure-garden being thus, throughout the greater portion of the year, denied to us.

One great error into which we have fallen is, that nearly all our gardens, such as they are, are alike. The small walled in gardens of the villas in the neighbourhood of London; the distribution of shrubs and flower-beds of the London squares; the college gardens of Oxford and Cambridge (to which latter places our style is less objectionable than elsewhere, being, perhaps it may be said, conducive to study, contemplation, and repose); the pleasure-gardens of our country residences, both great and small, from those of Buckingham Palace and St. James's Park to the humblest parsonage, are on precisely the same model. They may be said, one and all of them, to be formed on a plan of which the gardens of the Petit Trianon of Versailles is an admirable caricature: indeed, I can suggest no better method of properly appreciating and understanding our style, as well as of learning how a too strict adherence to its principles rapidly exposes its errors, than a visit to some of the imitations of it on the Continent, of which the gardens of Malmaison and the Trianon will afford happy examples. *

That errors such as this should have arisen in this country, where real taste is not wanting, and where a set of men of liberal education and cultivated minds have long presided over our gardens, must be a matter of astonishment; and I can account for it only by supposing that the dictum of Horace Walpole has been too strictly followed. He has said, "We have given the true model of gardening to the world. Let other countries mimic or corrupt our taste, but let it reign here on its verdant throne, original in its elegant simplicity, and proud of no other art than that of softening Nature's harshnesses, and copying her graceful touch." It would be speaking harshly of this great arbiter of taste to say that this is nonsense. To imitate Nature in Nature's works cannot certainly be called art. To imitate her on canvass is art; to imitate her sounds in music is art: but to imitate herself in her own works is mimicry; and if mimicry be art, surely it is the lowest branch of it. The mimicry of our gardening consists in making our gardens epitomes of our parks, as our parks are more properly epitomes of our forests. I deny that it is either convenient or agreeable, that it is either instrumental to our pleasure or our good health, the making our gardens

* The Park at Munich, laid out by Count Romford, in the English style, is a very charming specimen of gardening, and, being away from the palace, is most appropriately laid out. It is a place of recreation and amusement for the citizens, &c., in summer.

softened imitations of Nature's harshnesses; or, in other and more intelligible words, depositories of damp and wretchedness, which, as I before remarked, they must exhibit, constituted as they are, throughout the greater portion of the year.

The remedy I would suggest for these evils is simple; it is, moreover, easily acquired. We must give up the brilliant honour we have obtained of having created a model of gardening for the world, and condescend to borrow from our neighbours on the Continent some of that architectural taste in gardening in which many of them have so much excelled; we must engraft upon our own romantic harshnesses something that will accord better with the equipment of the interior of our residences, something like furniture and ornament, and not leap from our windows into jungles, and steppes, and wildernesses, where the lion and panther would be more at home than the "lady with her silken sheen." We must, in fact, adapt our gardens, that at least which adjoins the house, to the building, and make them a part of it, appropriate, and such as, in the times when those buildings were erected, were considered suited to each particular class. If we take a review of our country residences, we shall find them to be, or to have been, either the baronial castle, such as Warwick and Raby, ancient; Belvoir, and Lowther, and Eastnor, modern; or the monastic and conventual houses, such as, at the dissolution of the monasteries, were granted to the great and powerful of their time, of which the greater part of many now remain, and are private dwellings, Ashridge and Eaton being imitations; or the Elizabethan and Inigo Jones buildings, of which are Audley End, Longleat, and Wollaton; or the great square edifices, with projecting roofs, of William and Mary's time, of which is part of Hampton Court, and Belton in Lincolnshire; or the Palladian palace and villa, of which are Blenheim, Stowe, Kedleston, Chiswick, and Mereworth. To give them gardens appropriate to their individual styles and eras of building, would not only add truth and consistency to the character of each place, — an object hitherto sadly neglected, although generally allowed to be desirable, — but it would give also to the possessor an opportunity of introducing that description of garden ground which I contend to be best adapted to our climate. Each style of building would give us permission, as it were, to ornament, to furnish highly our gardens, to decorate them with masonry, to place statues and vases and ballustrades and steps about them, and to enrich them with that most charming of all garden ornaments, the terrace; all of which rich accompaniments, by carrying the eye from the interior ornaments of the chambers to the

garden, would in a manner so connect our gardens with our houses, as to make them, what all, I believe, would wish them to be, a pleasurable part of them. The want of colour, so necessary to a cheerfulness of scene, would, at those seasons when flowers have ceased to bloom, be compensated for by the lights which would be constantly falling upon and playing about the architectural ornaments; and that courting of sunshine, of which I have before made mention, would be generally gained.

(*To be continued.*)

ART. VII. *Plan of the Gardens and Grounds at Wilford Hall, Nottinghamshire.* By Mr. WILLIAM SMITH.

Sir,

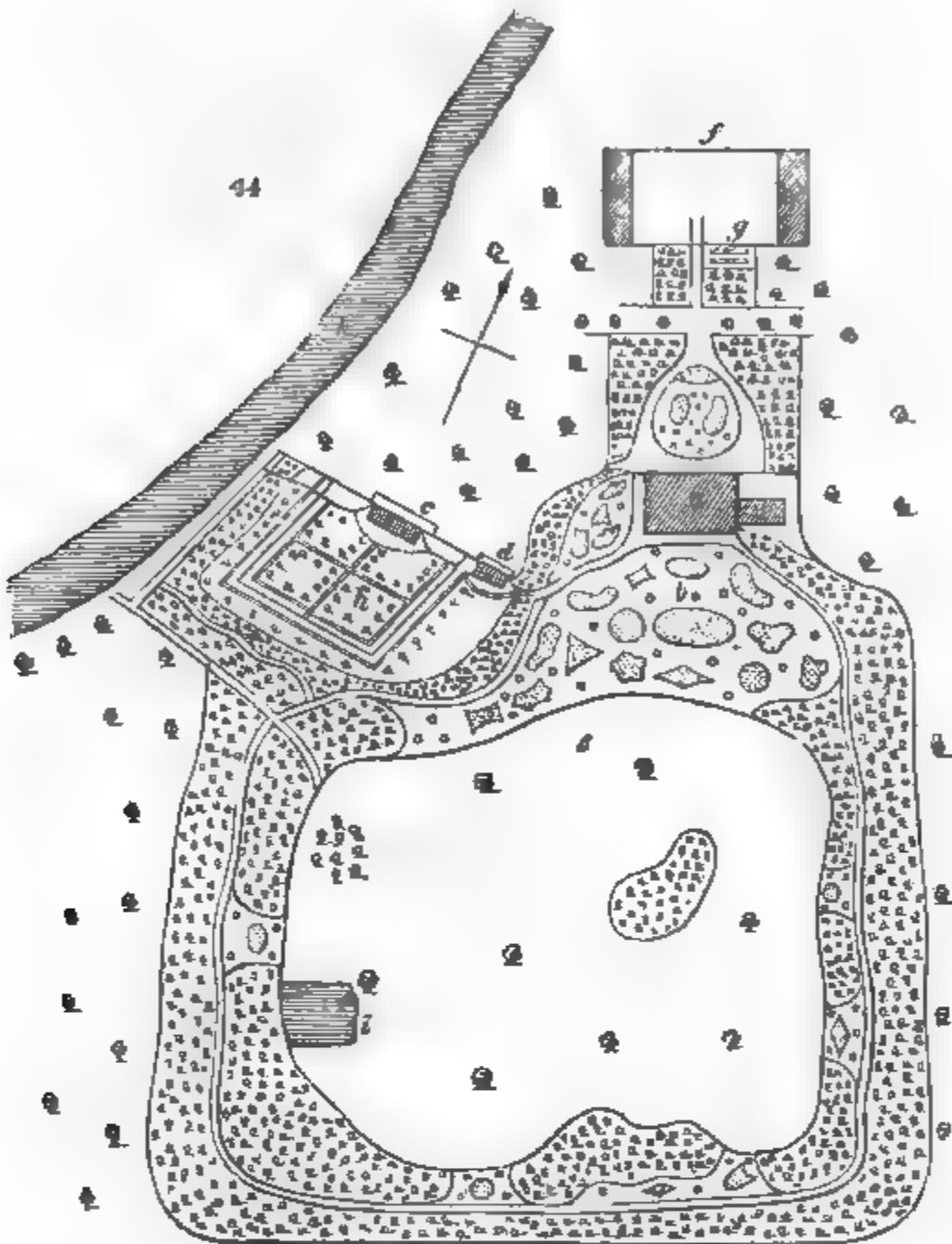
As a sharer of those pleasures which we find in reading your valuable Magazine, I humbly suggest to you a proposal, which, in my opinion, would be a source of additional interest; that is, to call upon your readers who have the charge of gentlemen's gardens and pleasure-grounds, to forward to you plans of their flower-gardens, shrubberies, fruit-gardens, or any other spot connected therewith which is kept in high order. The kitchen and nursery grounds may be omitted; but any particular object or practice in the former departments, might accompany the plans.

This, I am willing to believe, would be as readily as it may be easily complied with; and the result would be, the leading our ideas from our own firesides, and presenting us with distant scenes and excellencies, which, by comparison, would both amuse and improve us. To make a beginning in this new trait, I herewith transmit a plan of the gardens and grounds of which I have at present the charge. (*fig. 44.*)

The dressed grounds contain, exclusively of a piece of park-scenery in the middle, nine acres in the best style; the flower-garden is ornamented by two handsome cedars of Lebanon, measuring 60 ft. in height, and having boles 7 ft. in circumference, at the base; also a beautiful tulip tree, *Liriodéndron tulipífera*, 45 ft. high, and 5 ft. in circumference; with many red cedars, and arbor-vitæ of the same height. The flower-beds are well stocked with the best plants, herbaceous, bulbous, and American. The trees in the fruit-garden have only been planted four years, are trained in the fan manner, and are doing well. The green-house contains a good collection of geraniums, &c., with a few camellias and orange trees.

Jan. 12. 1828.

WM. SMITH.



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|--|--------------------------|
| a, Wilford House. | f, Stable-yard. |
| b, Flower-garden. | g, Forcing-frame ground. |
| c, Vinery adapted for pines, 45 ft.
by 80 ft. | h, Fruit-garden. |
| d, Green-house. | i, Pond. |
| e, Part of the Park. | k, River Trent. |

THE obvious defects in the laying out of the grounds at Wilford Hall, as far as can be judged from the plan, without seeing the grounds, are, that the dug patches of the flower-garden (b) are distributed over the surface too regularly, the shapes inharmonious, and neither accommodated to the turns of the walks, nor so fitted to their situations relatively to each other, as not to admit of being removed, or changed in position, without deranging the effect. The first fault occasions what painters call a want of breadth, the other a want of

expression or character. We do not mean that Wilford Hall is more objectionable in these particulars than many, indeed than most places; we merely offer our opinion, thinking it may be of use to young gardeners. We shall be extremely happy to receive similar plans of gardens and grounds, as actually laid out; from which, accompanied with our remarks, and compared with ideal plans, such as those of Mr. Major (p. 9.), the knowledge and taste of gardeners in this department will be gradually improved. We are fully persuaded of this, that the only effectual and permanent mode of raising the character of ornamental landscape, in the grounds of country residences, is to raise the taste and cultivate the talent of serving-gardeners in this department. At one time, we were inclined to think that a gardener could not excel both as a landscape-gardener and as a horticulturist; but recent examples have convinced us that, by a proper course of reading, accompanied by the practice of sketching landscape, and this last practice we hold to be essential, every gardener may know enough of both departments of his profession for all ordinary purposes. — *Cond.*

ART. VIII. *On the Advantages of planting Hedge-row Timber.* By Mr. W. M'MURTRIE, C.M.H.S.

Sir,

THE extensive circulation of your useful publication throughout the United Kingdom, having for its object not only the success of horticulture, but embracing that of agriculture also, I am induced to send you, for insertion, the following observations I have made on the subject of hedge-row timber planting. In many counties of England it is practised with approved effect; and, I am persuaded, it would be highly advantageous to the interest of agriculture were it still more generally adopted. In Scotland, and, I believe, in Ireland, it is seldom or never thought of. If it had nothing else to recommend it, methinks the lively and improved appearance it gives to the face of the country would almost be sufficient; but it has other and more beneficial effects. The trees, when grown up, have a wonderful effect in softening and ameliorating the harshness of the climate, by breaking those cold cutting winds we are so subject to in the spring, and which are so often injurious to the young crops when in the most tender period of their growth. The farmer whose fields are sheltered by hedge-row trees, particularly if he has stock, will be found to

suffer much less from inclement seasons, than he whose farm is destitute of other protection than what the common thorn hedge affords. In some places, where stone is plentiful, it is the practice to fence with low walls; this is decidedly the worst plan of all, at least for the purpose of shelter; and I should imagine that no farmer who has the well-doing of his crops and stock at heart, would countenance so absurd a system: it is only better than no fence. In grazing farms, the advantages of hedge-row planting are very apparent, the trees affording fine shelter to cattle and sheep in stormy weather; and, in summer, contributing as much to their comfort, by shading them from the heat of the sun. We may all have observed in gentlemen's parks, where cattle are allowed to pasture, how anxiously they seek the shade of a straggling tree, when the heat of the day is apparently too powerful for them. It is well known that live stock thrive better on a farm well sheltered by hedge-row trees, than on one which has not that advantage. In that inclement time of the year, the lambing season, shelter is extremely beneficial to the sheep. I have enumerated some of the advantages of hedge-row planting, but much more might be said in favour of it, which the limits of this paper preclude me from doing. I shall now notice the objections commonly urged against it. It is said by some, that the roots of the trees impoverish the soil, to a mischievous extent, near where they are planted; but, if a proper selection of trees be made, that objection would be obviated in a great measure; choosing those kinds whose roots do not spread much, I would in all cases exclude the ash from hedges, as the greatest robber of the soil. The beech, too, should be kept out of hedge-rows, as I have observed that nothing thrives under its shade. I shall, in another part of this paper, mention the kinds best calculated, in my opinion, for the purpose. The shade of the trees is likewise complained of as injurious to the farmer; but, if those branches that are inclined to overhang much be lopped off, there will be but little force in that objection; besides, the roots can only, at most, encroach a little upon the headland, seldom so productive as to make it an object of importance to the farmer. At all events, I am firmly persuaded that the benefits the farm would derive from the shelter, would amply make up for the disadvantages attending it. In Staffordshire it is universally practised; and, as I have said before, there can only be one opinion of its beautiful effect as to scenery. Hedge-row planting is much neglected in the northern parts of the kingdom, and almost entirely in Scotland. There are large districts there, and in the highest state of cultivation, too, where

not a tree is to be seen in that situation. In a journey I made to Scotland three years ago, after an absence of seventeen, (by the route of from Carlisle to Edinburgh, and from thence into Ayrshire,) the naked appearance of the country, contrasted with that I had just left, struck me most forcibly, and I then conceived the idea of representing to the proprietors of the soil, in some way or other, the great advantage the country would derive from the practice of hedge-row planting. As the climate there is considerably colder than in this country, every means should be used to mitigate its severity; and in no way can it be so well effected, as by adopting the simple method of planting a few trees in the hedges. I am aware the general opinion there is hostile to the plan, from the objections I have already noticed; but I am decidedly of opinion that it is an unfounded prejudice, which, if once got over, they would never have occasion to regret. This is no idle untried speculation which I recommend so strongly, but the practice of enlightened agriculturists in this country, where the soil is certainly not inferior to the best in Scotland, and where the climate is undoubtedly better; and surely, if it is considered as an improvement here, how much more applicable is it to the more northern parts of these kingdoms. Besides, if Scotland were to adopt this expedient, it would so improve the appearance of the country, that she would then, in some degree at least, vie with her happier-situated sister country, in her beautifully diversified surface, and rich and interesting scenery, as much as she takes the precedence of her in mountain grandeur. Of course, it is understood that the proprietors of the land would have to be at the expense of trees, planting, &c., as it cannot be expected that the tenant should incur it; for, although he would be benefited by it, yet the estate would be more considerably enhanced in value therefrom: but the occupier should look after the welfare of the plants, and see that cattle do not destroy them, until they grow out of their reach. It is as good a way as any, and the cheapest, to prevent accidents of that kind, to fix thorns or gorse about the stems, made secure by a couple of ties of willows. I may observe here, that, where it is intended to plant a young hedge, the opportunity should be taken of planting the trees at the same time; and, as it is the practice to have some sort of protection to the young hedge, it will answer for the trees as well. With regard to the kinds of trees best fitted for hedge-rows, I would recommend the oak, elm, particularly the narrow-leaved, sycamore, black Italian poplar, birch, alder, larch, &c. In high or exposed situations, the hardier sorts should be chosen, such as sycamore, birch, larch, Scotch

pinces, &c. I would advise planting pretty thick at first, say from 10 to 15 yards asunder; and, when grown up, let them be thinned out if necessary. In lower-situated grounds, from 20 to 30 yards asunder is a good distance; in small enclosures, surrounded by larger, that are well planted, fewer still are wanted; observing to plant thickest on the east and north sides of the fields, as the winds from these points are generally keenest and most destructive to vegetation. The lands exposed to the sea, in all points, should be best protected. The black Italian poplar is an excellent sort for hedge-rows, as being much quicker of growth than the others, and a wood coming very generally into repute. It has this remarkable quality, that fire makes but little impression on it, and on that account it is much used for flooring in large manufactories: if a fire were made upon the boards, it might burn through them, but it would not ignite the rest of the floor. It grows best in moist situations (like the alder), but will succeed very well in most soils except a hot gravelly one. There is a saying hereabouts, that the poplar will buy a horse, before the oak will purchase a saddle, in allusion to its quick growth and useful qualities; I particularly recommend it. I will just mention, that a few Scotch pines, dotted in in the hedge-rows, among the deciduous sorts, would have a pleasing effect to the eye, and would answer the purpose of shelter equally with the other kinds. In those counties where coal is scarce, the lop-pings of the hedge-row trees would be found a valuable consideration to the tenant as fuel. With regard to the expense of planting, it is so trifling a consideration, compared to the advantages this plan holds forth, that it is not worth taking into account; two or three men would, in a very short time, plant a large estate.

I send you, Sir, this rough outline of a subject which is well worth the pen of an abler writer; but if it meet the attention of the proprietors of the soil, to whom it is most respectfully but earnestly recommended, my object will be gained. Being no nurseryman, I cannot be accused of having any other object in view than that which I avow, a sincere desire to see our mother country not only better ornamented in her appearance, but better enabled to endure the climate Providence has allotted her.

I am, dear Sir, yours, &c.

Shugborough Gardens,
Jan. 21. 1828.

W. M'MURTRIE.

ART. IX. *On the Holly and the Hazel, as Underwood.*

By Mr. JAMES FRASER.

THAT holly and hazel, independently of their uses, are the principal constituents in the filling up of sylvan scenery, few, I presume, will deny; some hints, therefore, relative to the treatment of these shrubs, both in an ornamental and useful point of view, may perhaps not be unacceptable to some of your numerous readers.

Although there are many extensive places where the woods, &c., do not come under the gardener's superintendence, yet every gardener ought to be conversant in these matters. I am sorry to say, however, that in the greater part of the plantations I have visited throughout this country (Ireland), these useful and ornamental shrubs, in common with the other trees, are shamefully neglected by all parties concerned in their management.

The holly, as a shrub, is unequalled, whether we consider its stature and mode of growth, or its variety, colour, and permanency of foliage. It is found in its natural state in various soils and situations; but it appears to flourish most in a loamy soil, inclining to peat, as may be seen in the vast tracts of natural wood in these countries. The whip-makers, as I have found, give a decided preference, for whip-handles, to the holly grown on upland; not only on account of its being tougher, but, by reason of its slower growth, the branches are more closely set, which saves them considerable trouble in forming artificial knots. The turners adapt the holly grown in various situations to different purposes, according to the density of the timber. The hazel luxuriates most in deep upland; and although it is to be met with in the rocky glen, on the mountain side, and in the bosom of the forest, yet, in a profitable point of view, a strong and dry loam will be found the most advantageous. There are few plants more accommodating, none more simply beautiful; and it is an indispensable appendage in representing the truly picturesque scenery of our country. The coopers also prefer, for hoops*, hazels of upland growth, as the whip-makers do the holly for handles, but for different reasons, as quickness of growth and thinness of branches are, with the cooper, principal accommodations.

With regard to the hazel copses in this country, I have met with very few under what I conceive proper management. In many of them premature and irregular cutting takes place;

* In Ireland, hazel poles, from four to eight years' growth, are in great demand for hoops for butter-firkins.

in others they are suffered to grow till beauty and utility are sacrificed, and the standard trees of the wood much injured. When cut over, every shoot which springs up is suffered to remain on the stools till the next period of cutting, unless, indeed, when near a market town, a few young shoots are cut and sold for basket rods, &c. When beauty and cover for game form the sole object, with regard both to holly and hazel, the principal matter to attend to is to keep the bushes of a moderate height, and to lop off any straggling branches which have a tendency to produce nakedness at bottom. When profit only is considered, a different course is to be pursued. In young copses, the chief thing is to invigorate the roots, and to suffer no more shoots than are absolutely necessary, to remain in the stools till they have acquired sufficient strength. After cutting over, should the stools push strongly, the superfluous shoots ought to be occasionally displaced, leaving only what the stools can fully support; and those intended to remain for hoops and poles may be much forwarded by rubbing off all unnecessary buds as they appear. This work I have readily performed with children. When profit and ornament are jointly considered, which is uniformly the case in demesnes, &c., the copses in the interior of the wood or plantation, if of any extent, may be treated in the manner suggested for profit, and those along the margins, by the sides of the roads, walks, &c., managed, as hinted at, for game covers and beauty.

I am, dear Sir, yours, &c.

Dartfield, Loughrea.

J. FRASER.

ART. X. *A successful Method of cultivating the Chrysanthemum indicum.* By Mr. W. MITCHINSON, Courtlands, near Exmouth.

Sir,

THE following method of treating the chrysanthemum is, I believe, new; and, as it answers successfully, I think it may be acceptable to some of your readers.

In the plan of cultivation to be described, I propose to myself to obtain all the advantages of different heights, large flowers, and the best disposition of the whole plant during its flowering season.

To procure the highest growth, I detach from the old plants the most promising suckers, about the first of March. These I place singly in small pots, and set them in a cold frame, giving them the usual attention, and shifting them three times in the course of the summer.

My second set are from cuttings struck about the middle of May, placed singly in pots, and are shifted twice in the season.

The lowest grade, which form bushy plants, rise from 8 to 18 in. high. To obtain such, I do not keep them down by pruning, as is commonly done, but by layering some of the principal shoots in the following way:— Having some of each variety planted in the spring, on a south border, there they are allowed to remain till the middle of August, at which time they have formed fine bushy heads, and from these are to be produced my dwarf-sized plants. Previously to layering them, I select and bend down to the surface of the ground as many as are wanted, fixing them there by long hooks, at the place whence I propose the new roots shall proceed. In a few days the shoots regain their natural upright position; they may then be layered in pots placed close thereto, and half-plunged in the soil; this is easily done without risk of breaking off the points, to which they are liable by a different practice. When placed in the pots, fix them there by hooks, which should be long enough to pass through the hole at bottom, and thus keep the whole steady. The layers are assisted by regular watering, and having moss or short grass laid on the surface of each pot; when sufficiently rooted, they are taken off, and shifted into larger pots, in which they are intended to flower.

My next object with all these sets of plants, is to train them to the best form: as stage-flowers, they should present their best face to the spectator, every flower should be seen, and they should be as regularly arrayed as possible. To train them to this effect, I place them, as soon as shifted for the last time, against a south wall, allowing them plenty of room from each other, plunging the pots in the ground, and fixing the principal shoot only with a shred to the wall. In this situation, they in a short time acquire the desired form, which they retain throughout the flowering season. The plants are not tied to sticks till the flower buds begin to form; they are then detached from the wall, but still kept as near it as possible. To give the necessary symmetry, a little contrivance must be resorted to; some of the longest side-branches which are not wanted, or may be spared from the top, are bent spirally downwards behind, and their points protruded through the foliage below, so that flowers may appear regularly over the face of the plant. I use small copper wire for this purpose, which I find much more suitable than either brass or thread.

Large flowers are obtained by a judicious thinning of the flower buds. Those sorts which have many secondary buds

should be divested of them, especially if they are inferior in size and untimely in blowing. From one to three of the most promising will suffice for every side branch ; and in most cases one only may be enough, provided the buds are properly distributed. This thinning ought particularly to be practised on the Superb White, Two-coloured Red, Changeable Pale buff, &c. ; but such as are cluster flowers should be thinned more sparingly ; the Superb Cluster Yellow, for instance, which flowers in a kind of raceme, should be allowed to show its character.

I am, Sir, &c.

Courtlands, Jan. 18. 1828.

WM. MITCHINSON.

ART. XI. *Cultivation of the Chrysanthemum indicum.*

By T. S. S. N.

Sir,

To obtain a regular bush, and large flowers, I place my old plants on a north border, in the month of July, at good distances from each other ; round these I set 48-sized pots, filled with proper compost ; I then lay the points of the shoots one in a pot, giving each shoot a gentle twist, and fixing it down firmly with a hook. In a month the layers will be sufficiently rooted, when they may be taken off, and shifted into larger-sized pots, there to remain to flower.

The young plants, after being shifted, must be set in a shady situation, and well supplied with water ; they will advance into fine form, and produce from six to fourteen flowers each, of superior size and beauty.

Dec. 1. 1827.

T. S. S. N.

ART. XII. *Cultivation of the Garden Violet, and Means of obtaining a fine Succession of Flowers from the beginning of November to the end of April.* By E. of Roehampton.

For the earliest crop the runners should be collected about the end of May ; but to obtain them at that season as strong as possible, it is necessary to sift over the old plants a small quantity of well decayed vegetable mould, as soon as they have done flowering. Water occasionally, to assist them in striking root ; and, when sufficiently rooted, let them be carefully taken up, and pricked out in a bed of light garden mould without manure of any kind, and in a completely open situation. Here they are to remain till they are planted out for flowering and during this time occasionally watered and as

they should stand at the distance of 4 in. apart, the hoe may be now and then applied to keep them free from weeds.

Towards the end of July, they will be fit for removal into the flowering bed. This is prepared in an open and sheltered situation, in the following manner : — Form a layer of unsifted coal ashes, well trodden down, 1 ft. thick, to prevent worms rising from the natural soil, and over this place the following compost; viz., two fourths well reduced bog or peat earth, one fourth free loam, one fourth well rotted cow-dung, and a little bright clear sand. These are to be well reduced in mixing, but not sifted.

With this compost the bottom is covered 10 in. deep, and when well settled it will be ready for the plants. These are to be carefully raised from the nursery-bed with good balls, trimmed, and planted in the prepared bed, at intervals of 6 in., in rows 6 in. apart. Here the plants are attended to by watering, cleaning, and shading when necessary, till they are nearly done flowering, at which time the frame is put on, to defend them from receiving too much rain.

The frame and lights should have the same inclination as the surface of the bed, the glass being at the distance of 1 ft. therefrom. The lights should, however, be kept off as much as possible, in order to admit full air, gentle rain, and dew.

When the nights begin to get cold in the autumn, the lights must be put on, and in all inclement weather kept on even in the daytime. During nights the frame must be covered sufficiently with mats, so that no frost may enter; and, as a further security, a lining of mulch, 1 ft. thick, should be compactly built all round the frame. In dry weather, if the plants be slightly sprinkled with water, before covering up, it will excite the young buds, and enlarge the expanding blossoms.

To insure a succession, another parcel of manure should be pricked out a month later than the first, and not transferred to the flowering frame till the middle of September; and, as these are not intended to flower till February, less protection during winter will be necessary. If violet plants are required during winter in pots, they may be potted in August, and forced in a mild dung heat of 60° any time between November and March; they will flower in great perfection.

The Double Neapolitan is the best for forcing; the New Single Russian is very early and hardy, but not showy. The Old Dark Purple will not bear forcing well. With regard to violets, it is observable that if they have too much sun in March and April it injures their colour; shading at that time is therefore necessary.

E.

Roehampton, Dec. 1827.

ART. XIII. *An Account of a remarkable Cockscomb (Celòsia cristàta), grown by a Wheelwright at Appleton, near Oxford.*
By WILLIAM STOWE, Esq., Surgeon, Buckingham.

Sir,

I SEND you some account of a remarkably large specimen of the cockscomb (*Celòsia cristàta*), which I had an opportunity of seeing in the possession of a friend, at Oxford, last summer. It was raised by a person who follows the business of a wheelwright, at Appleton, near Oxford, but who, like many other artisans, prefers spending the little leisure he can spare from daily labour in the delightful recreation of gardening, rather than in *muddifying* his senses and degrading his nature by tippling in a pot-house. He prides himself so much in excelling all ordinary cultivators of this flower, that he cannot be induced by any promises or entreaties to communicate the secret of management; a selfishness which I cannot justify, and should wish, for the honour of the science, not to see imitated. All I could learn was, that he had about twenty flowers nearly as large as the one I allude to, and that they were under glass, in a sort of rustic green-house, in large pots, immersed either in moist manure or tan.

The dimensions were as follow: — From the surface of the mould to the top of the blossom was 3 ft. 6 in.; the crest of the flower, measuring lengthwise, was 23 in., and its breadth about 6 in. The convolutions were compact, and of a beautiful crimson colour; it was exhibited in full perfection, for several weeks, at a window in one of the principal streets in Oxford; and was admired, I believe, by thousands. I have taken a good deal of pains to raise large specimens of this flower, by using the compost recommended by the President of the Horticultural Society (*Hort. Trans.* vol. iv.; *Encyc. of Gard.*, § 6483.), and acting upon the principle of retarding the flowering, by frequently shifting the plant into larger pots, and taking off the side branches. I have grown them of a considerable size, though not equal to the one described by Mr. Knight, of which a drawing was made by order of the Society, and which has now been surpassed, in size at least, by the humble cultivator at Appleton. Perhaps some of your numerous correspondents will be so good as to communicate the result of their experience in the management of the cockscomb, which, from the brilliancy and richness of its colour, has many admirers besides myself.

I enclose you a few of the seeds which I was permitted to gather, which you may dispose of as you please; and allow me to ask what, botanically speaking, the part called the

flower should be designated? My knowledge of the class to which it belongs (*Pentándria*) does not, among *indigenous* plants, enable me to mention any thing similar to it.

Your obedient servant,

WILLIAM STOWE, Surgeon.

Buckingham, Feb. 6. 1828.

THE seeds, for which we return our best thanks, we have distributed in various quarters. The flowers are in what is called a conglomerated crest-shaped panicle. — *Cond.*

ART. XIV. *Observations on the Cultivation of various Culinary Vegetables.* By Mr. JAMES HOUSMAN, late Gardener to John Bolton, Esq., Storrs Hall, Westmoreland.

Sir,

YOUR readers being invited to communicate any thing which they may think valuable in practice, as appertaining to the art of which your Magazine is the chronicle, I venture to trouble you with a few observations, which, however imperfectly written, may, notwithstanding, interest, and perhaps inform, some of your readers. I am not one of those who, from an overweening selfishness, think every thing known by myself as too excellent for others; nor am I so conceited as to be above taking a hint or a lesson from any of my brethren, however obscure. On the contrary, I fully agree with yourself, and I am sure, with every other liberal-minded man, that to be mutually serviceable to each other is at once our duty and our interest; and by intercommunication in your (in this respect) most useful publication, we may greatly benefit one another, as well as advance the art on which we are all engaged.

I have first to notice the method of growing *celery* recommended by Mr. Knight, Pres. H.S.; and which I think unworthy of its author. That *celery*, in its wild state, is a water plant, we need not be told; and that, in its cultivation, it should always have a superabundance of water, is also advice as plausible as it is natural: but this, however feasible, should not lead us away from our principal object in the cultivation of this plant. In its natural state it is acrid, tough, and disagreeable; and, if cultivated as nearly like nature as possible, especially in respect of supplying water, we may increase its bulk, and, perhaps, its medicinal qualities, but we shall certainly fail in giving it the desirable properties of mild crisp-

ness, and sweetness, which are the consequence and intention of our artificial culture. On this account only I venture to reject the worthy president's advice; and prefer the practice which long experience has approved. One improvement on this, however, I have myself adopted with success, and which may be worth noticing: it is to open the trenches about mid-winter, and dig in the dung; in these, cauliflowers, lettuces, or cabbages may be raised; and on the intervals, spinach, radishes, &c., all which may be off before the time of planting celery.

Mushrooms in winter, I obtain by a very simple though not a new process. Provide boxes 3 ft. long and 1 ft. 8 in. deep; a quantity of horse-droppings, perfectly dry; some spawn, and some light dry soil. Fill the boxes by layers of droppings, spawn, and soil, which must be trodden perfectly tight; repeat these triple layers till the boxes are full, and all trodden firmly together. Four such boxes at work, are sufficient for a moderate demand; and of a dozen, four brought on at a time, and placed on the flue of a pine stove, or of any other forcing-house, will produce a fair supply. The surface of these portable beds must be covered with a little hay, and occasionally, though sparingly, watered. It is not absolutely necessary that they be set on the flue of a hot-house: the kitchen cupboard, or any similar place, will suit equally well. This plan is also convenient in always affording a plentiful stock of superior spawn.

The same-sized boxes will also do for *asparagus*; but, for this purpose, a sufficient stock of three-year-old plants must be at hand; also eighteen boxes, four of which are the necessary set to be forced at one time for a middling family. Half fill the boxes with decayed tanner's bark, leaf-mould, or any other similar mould; on this pack in the roots as thickly as possible, and fill up the boxes with the bark, &c. Any place in a forcing-house will suit them; on the flue, under the stage, or, in short, any place where they can enjoy the necessary degree of heat. Besides *asparagus* and mushrooms, sea-kale, rhubarb, Buda kale, angelica, small salad, as well as all other potherbs, may be raised in the same manner. One of its chief advantages is, its leaving so much fresh dung for other purposes of the garden, as well as enabling the gardener to do with less than the land-steward may be disposed to allow him. It is unnecessary to show of how much value such processes may be in minor establishments.

I am, Sir, yours, respectfully,

JAMES HOUSMAN.

Clapton Nursery, February, 1828.

ART. XV. *Hints on the Cultivation and Forcing of the Early Scarlet Rhubarb and Sea-kale.* By Mr. DAVID SPIERS.

Sir,

IF you think the following hints on the forcing and management of the *Rhèum rhapónticum*, or what is called the Early Scarlet Rhubarb, worthy a place in your useful Magazine, they are at your service.

This rhubarb was introduced into the county of Stafford by the Rev. T. Gisborne, Yoxall Lodge, Needwood Forest, near Lichfield, who brought it from Ashton in Yorkshire, about twenty-six years ago. I was informed by John Baillie, who was gardener there for upwards of thirty years, that he had forced it for eighteen years. When I was gardener at Holly Bush Hall, near Yoxall Lodge, I have had it in the beginning of December, by removing the roots carefully, and potting them with vegetable soil in large pine pots. I afterwards had a place made in the mushroom house, where I used to place the roots in old tan. Since I left that situation, I have had the opportunity of trying another method of forcing, which is better than any I know of, as it does away with all unnecessary trouble in taking up the roots, potting, &c.

I find that plants forced where they have established themselves, will produce more than those that are removed, and of much finer quality. The length or number of beds for forcing, must be regulated according to the size of the family; and, supposing the beds are 23 ft. long by 3 ft. wide, having a trench on each side, 2 ft. wide by 1 ft. 6 in. deep, for linings, a bed of this length will hold ten plants, 2 ft. apart, the first being 1 ft. 6 in. from the end of the bed. In the autumn, when the plants are cleared of their leaves, let the surface of the beds be forked over to the depth of 4 in., afterwards breaking it with the head of the rake; place a proper forcing-pot on each plant, and, at the same time, cover the soil in the inside of the pots with dry river sand, to the thickness of 1 in., which gives a clean appearance, and likewise prevents the leaves damping. As soon as it is thought necessary to begin forcing, let the trenches be filled with horse-dung from the stable-yard, taking care to shake and beat it well with the fork, and carrying the linings about 1 ft. 3 in. higher than the surface of the beds; then cover the beds over, from lining to lining, about 1 ft. 3 in. higher than the pots, with dry littery straw. In three weeks from the time the linings are applied, the rhubarb will be ready to cut. Care should be taken to renew the linings when necessary, keeping the pots sufficiently covered with straw.

This way of forcing is much better than the old method; for, where there is so much dung used for forcing in seasons when we have either much rain or snow, the plants are liable to become tainted with the rank effluvia, and, in consequence, the quality of the stalks is deteriorated: this must be carefully guarded against.

A succession being requisite, and as this species of rhubarb vegetates nearly four weeks earlier than any of the other sorts, nothing more is required than to have a few beds of the same length and breadth as the above, for forcing, with 15-inch alleys between. Let them be prepared in the same manner, covering the whole of the beds, about 1 ft. higher than the pots, with dry littery straw, leaving the alleys clear. The beds should remain covered in this way till July: this will preserve that beautiful colour and flavour so much admired when made into tarts; for, if exposed to the atmosphere, those qualities are lost.

This rhubarb makes an excellent preserve, when cut into small pieces about $1\frac{1}{2}$ in. long, and preserved in clarified sugar.

As beds of rhubarb and sea-kale should be permanent, a bed of each sort may be planted together, as three linings will work both beds, and a dish of each may be got alternately. I recommend the sides of the beds to be built up with bricks, laid flatwise, and pigeon-holed as thickly as possible, so as to admit the heat freely from the linings. I find rhubarb and sea-kale grow well in three parts light sandy loam, and one fourth rotten dung. If it be found necessary to empty the trenches of the dung, they had better be filled with littery dung, so as not to expose the roots too much to the sun and air during summer. I remain, Sir, yours, &c.

Mr. Lee's Nursery, Hammersmith,
March 25. 1828.

DAVID SPIERS.

ART. XVI. *Some Particulars relative to the Cultivation of Asparagus.* By Mr. T. A. MEYER, of Berlin, now in the Clapton Nursery.

Sir,

My experience in the cultivation of this highly esteemed vegetable, was acquired in a country where much of it is grown, and where it is obtained in great perfection. My situation was in the west of Germany, sixty leagues east of the capital of France. The soil of the garden was what is called in this

country thin; that is, only about 14 in. in depth, reposing on a substratum of gravel, and consequently not deep enough for asparagus: but, resolving to add to the depth by coverings of suitable materials, I formed my beds, and planted two-year-old roots at only 2 in. beneath the surface, covering them with about 1 in. of soil. Five-feet beds contained four rows of plants, and at a good distance from each other in the row. In the month of November the winter rains set in; I then covered the beds with 3 in. fresh horse and cow dung, and in the spring with 2 in. of vegetable and garden mould compost. In the summers of the first and second years I took crops of onions and lettuces off the beds in the usual way. At the second autumn dressing I laid on a thin coat of cow hair, which I procured from the tan-yard; above this, 2 in. of stable and cow-house dung, and in the spring 2 in. more of mould.

For another new plantation of asparagus, I excavated the beds to the depth of 20 in., filling the excavation again with a rich mixture of night-soil and mould. These beds were only 3½ ft. wide, and on them I planted two rows of roots at the distance of 2 ft. apart in the row. The after management was as before.

A third plantation was laid down in 1825; in this last I used ground bones as a dressing for the plants, as an experiment. All have succeeded well; the first was very good, but exceeded by the second in size and quality; and, if the last continue to advance as it promised to do when I left that country, it will be still more luxuriant than the two preceding.

The measure I speak of above is the Rhenish foot, which is something longer than the English foot.

I am, Sir &c.

F. A. MEYER.

Clapton Nursery, Jan. 29. 1828.

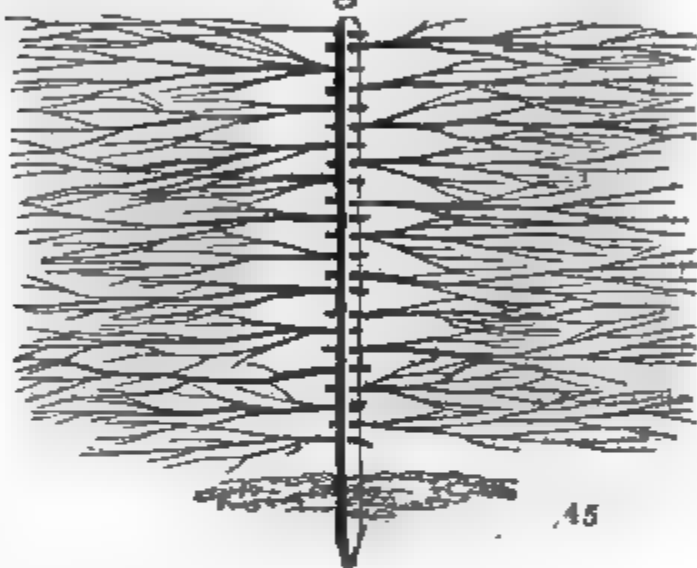
ART. XVII. *Notice of a Mode of procuring Sticks for training Knight's Marrow Pea.* By SUFFOLCIENSIS.

Dear Sir,

THE difficulty and expense in procuring sticks for Knight's Gigantic or Tall Marrow Pea, have prevented many persons from growing that excellent vegetable. Having this year experienced some trouble in accomplishing this object, I turned my attention to some plan by which the use of long sticks might be superseded, and have just tried one, which appears calculated to answer every purpose. Although it will be attended with some little expense at first, I have no doubt it

will eventually prove cheaper to a regular grower than any other.

I have provided an upright stake or standard of oak, 3 in. by 1½ in., about 7½ ft. long. Holes are bored through this with a half-inch auger, about 3 in. distant. Having procured some good branching pea-sticks, from 3 ft. to 5 ft. long, I begin on one side at bottom, and place them in the holes, in such a way as to make them touch and form a complete fan. I then fill the other side in the same manner. My oak standard, when complete, shows sufficient pea-sticks for 8 ft. or 9 ft. length of row, 6 ft. high; as I propose driving it 18 in. into the ground, that it may be so firmly fixed as not to be moved by the wind. If any trouble arises in making the sticks fast in the stake, it is very easily remedied by driving a small wedge in. to secure them. The sticks I used are elm, but hazel or any other which is spreading, with small twigs or spray, will do equally well.



I have sent you a sketch of one of these pea-sticks (*fig. 45.*), which may perhaps be a better guide to any of your readers who are inclined to try them, than my explanation alone.

I remain, dear Sir, yours, very truly,

SUFFOLCIENSIS.

June 1. 1827.

ART. XVIII. *General and Critical Observations on the Cultivation of the Pear, on Publications which treat of them, and on the best Means of identifying the different Sorts.*
By W. R. Y.

Sir,

It appears to me that the Horticultural Society has it within its power to effect much real good, by giving to the world its opinions respecting the favourite latitude, soil, and situation of their various fruits; and that it is in your power to assist their plan, by eliciting opinions from your various correspondents, particularly as to the effects of soil and climate upon

those trees which have travelled from the south into the north, or which have been transplanted from the banks of the Tweed and Clyde into more southern latitudes.

I started in horticulture with much zeal and little knowledge. I determined to have a good fruit-garden, but I did not see the shoals and quicksands which were to beset me in my track. I was not then aware of the excellent caution contained in your last Magazine, "that every fruit has its favourite latitude."

I selected many pear and apple trees in Scotland, which, in that moister and cooler climate, had afforded me excellent repast; but this spring I shall have to regraft several, which, in my dry and free-stone soil, have proved vapid, and not worth retaining.

Other trees, which I obtained from the south, will, I fear, not ripen their wood or bear, having migrated too far into the north. Although Mr. Forsyth's list is the best we have for reference, he seems not to *have formed a plan* for his description of the various fruits. Neither have other writers done so. In some we have the virtues of the fruit, in others their habitat, but few have given a full description of both. Surely we should have some more decided list given for all of us to work up to; something similar to the tabular catalogue in your *Encyclopædia*, only more extensive. I would advise adding to these tables the following additional columns:—Soil and situation the fruit covets; colour, size, and period of blossom; length of stalk, a material consequence in exposed situations; the period of leafing, as connected with the blooming.

Perhaps some other matters may be added, but of the value of the above additions I am confident. Take, for instance, one out of many facts;—no early blossoming tree, which is a late leafer, will ever prove a good setter of fruit in my orchard.

The subject, I think, is worthy of your labours, and although it will require time to bring a descriptive catalogue to perfection, yet, when effected, a most valuable object will be gained. Rome was not built in one day; San Gallo was years about his miserable models for a cathedral at Rome, but we know that Michael Angelo perfected in one fortnight his immortal design of the church of St. Peter.

A few years since, I planted two Colmar and two Gansell's Bergamot pears; but as the latter proved the common Summer Bergamot, I regrafted them with cuttings, sent to me from Liverpool, of the Poire d'Auch. Now, if my ideas are correct, that the Colmar and Poire d'Auch are equally tender trees, there seems to have resulted an extraordinary fact from

the double grafting, as I have this year had some fine dishes of the latter fruit; indeed, the latter tree is healthy and vigorous, while the Colmar seems scarcely to vegetate through April and May, making little progress towards ripening or perfecting its next year's blossom buds. I feel so confident that the double grafting has given vigour and hardihood to the Poire d'Auch, and forced it into fruiting, that I shall certainly try to encourage the Colmar, by inserting its grafts, next spring, into a Bergamot tree also. Should any of your correspondents have tried similar grafting, either by *design* or accident, and marked the result to be in any way similar to my own, it will be of use to state the fact.

We already know that many fruits are rendered worthless by the use of improper stocks; why may not other fruits be benefited by using peculiar stocks? I am inclined to believe that from grafts coming to me from two trees of the same species long cultivated in Kent and at Liverpool, I should obtain fruits, which, when they came into bearing in my garden would ripen at different periods.

The inutility of the *Pomological Magazine* must now be apparent to every person; as far, at least, as market-gardeners and orchardists are concerned. Let us suppose a common case. A market-gardener is to commence an orchard. What is the first object of his thoughts? Why, to procure the best trees suited to his market, soil, and situation. Or, if a man leases an orchard, wherein are many bad or failing trees, which require replacing or regrafting, is he not also desirous of good fruits suited to his purpose?

In what way is the farmer, gentleman, or general orchardist differently situated? Why, in none. All seek,—for what? Inferior fruits, because new? No, decidedly not. They all try to procure the best, new or old, and they apply where they are most likely to effect their object. Now, had the Horticultural Society discouraged the cultivation of inferior fruits, reduced the lists, and selected its best sorts, distributed cuttings amongst the London nurserymen, along with their observations, and had the editors of the *Pomological Magazine* published this reduced and corrected list, with plates of the selected fruits grouped, so as to bring the whole within a limited price as well as limited period, the same would speedily have found its way into the country nurseries, when any person wanting a tree might be certain of a good fruit.

But there is still another very material defect. Neither soil, climate, nor situation is referred to, though the Society well know that many trees would be unthrifty on the outside, while others would become prolific bearers, and, at the same

time, they would yield protection to the tenderer kinds in the centre of the orchard. The Society also know that certain trees will not succeed upon cold clays, while others are vapid on the sands.

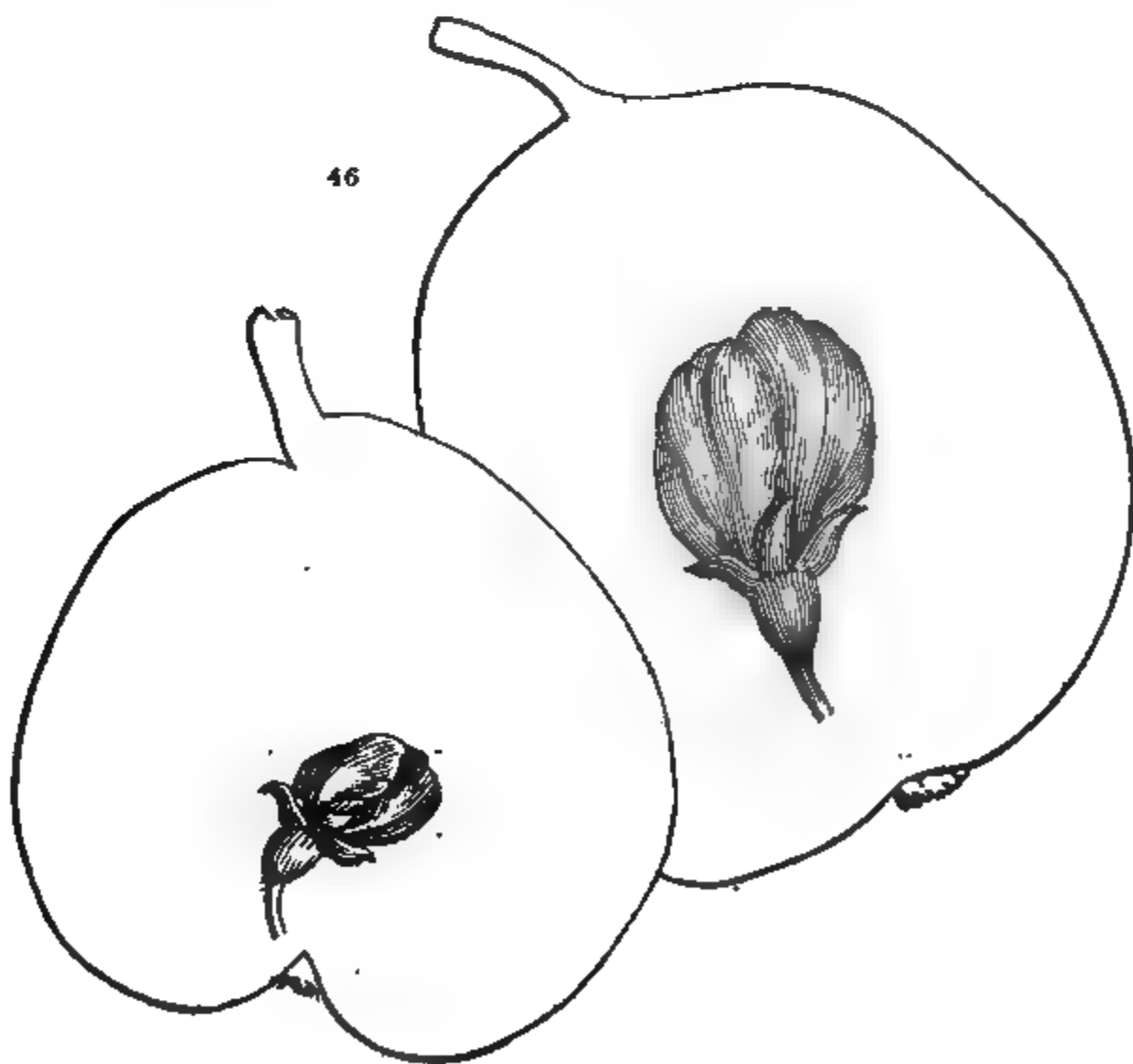
Had the Society obviated these and other difficulties, and, through the *Pomological Magazine*, given us sufficient letter-press to direct our labours, and engravings to direct our choice and fancy, we should at once have come to supply and demand, in fruit trees, as in all other merchandise; when the nurseryman who sold the best article would have the most trade, and the refuse be thrown out of the market, like Peter Pindar's razors.

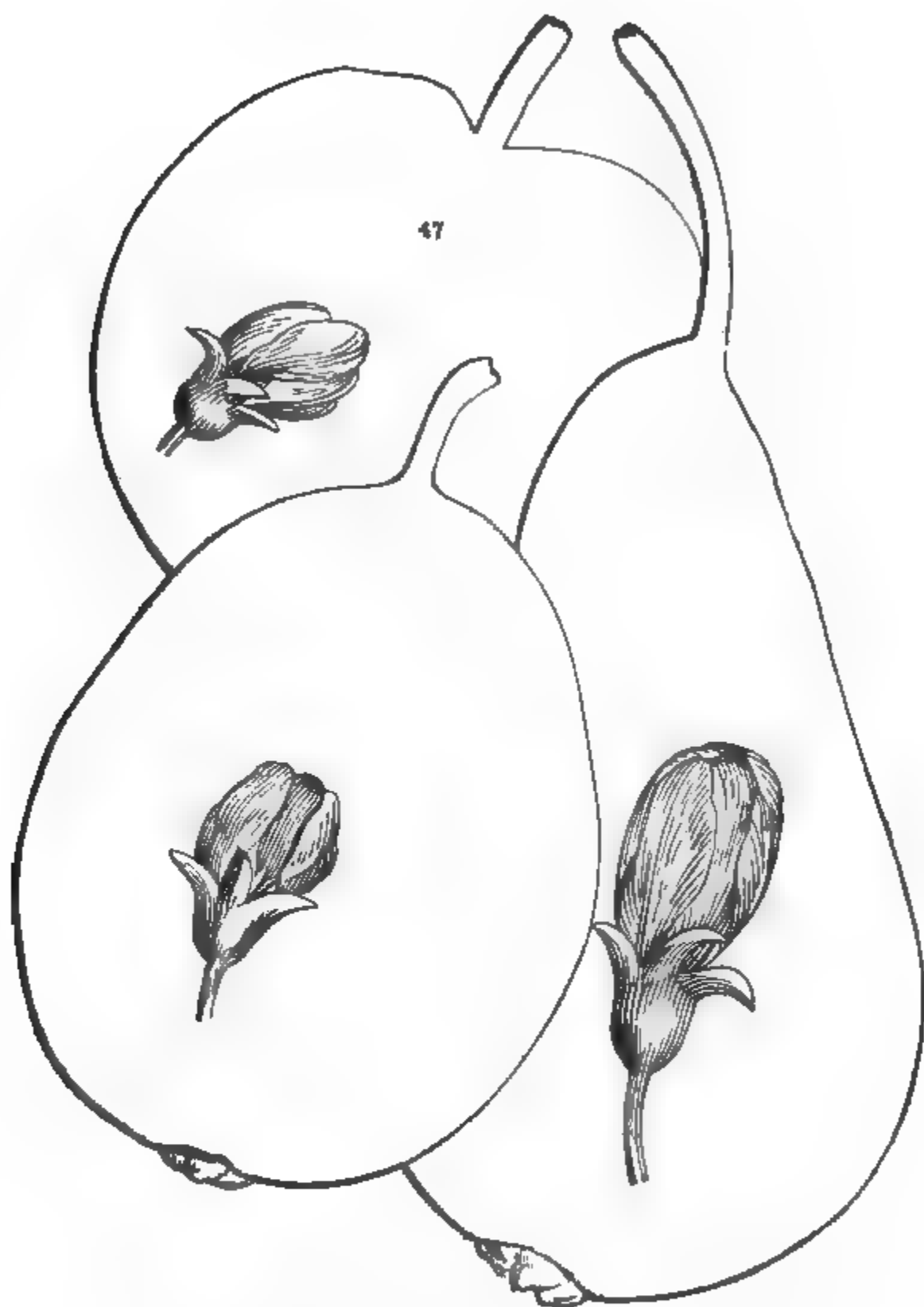
"Friend," quoth the razor-man, "I'm not a knave,
Upon my soul, I never thought that they would shave."

"Not shave?" quoth Hodge, "what were they made for then?"

"Made," quoth the fellow, with a smile, "to sell."

If, then, the *Pomological Magazine* is to give us razors that will not shave, in other words, indifferent though new fruits, it is reasonable to enquire of the editors, *quæ sit utilitas?*





As the *Pomological Magazine* is not calculated to attain its objects, I have examined your tabular scheme. It seems, to my apprehension, that you have called together, in a masterly manner, the chief points connected with pomology. I consider your *Encyclopædia* an admirable collection of facts; your diagram scheme of fruits (*Gard. Mag.*, Vol.III. p.826.) is excellently planned, and may easily be perfected and connected with tables like those of your *Encyclopædia*. I certainly do

consider folios as cumbrous pieces of machinery; and think that, if fruits were classed by seasons or in families, you might arrange octavo tables, and give us a valuable volume corresponding with your Magazine.

I have taken the liberty of enclosing a slip of paper, containing a memorandum of the size of some fruits gathered in 1827 (*figs.* 46, 47.), merely to show the mode I adopt for reducing trouble. I very much doubt whether a table of leaves will effect much good: I have spent hours in comparing them; but, from the similarity of leaves upon different trees, and the dissimilarity of them upon the same tree, I have given up the pursuit. With regard to orchard fruits, I despaired of bringing the comparisons to any practical use.

The seventh table (*Gard. Mag.*, Vol. III. p. 327. *fig.* 122.) is excellently adapted to forward the plan: an espalier tree takes the form which the gardener chooses to give it, but a standard will assume its own character. The table of blossoms (Vol. III. *fig.* 118.) may be made to render much assistance. Some pear trees, when in blossom, have no leaf, while others are much in leaf; and this is a distinguishing character which pervades all the varieties of pears and apples, and it is a distinction of more consequence than market-gardeners are aware of: for instance, the Tiffin apple, which has scarce one leaf when in full bloom; the Cornish crab so much, that you can scarcely see the flowers. The former is (to my mind, consequently) a very shy setter of fruit, while the latter sets abundantly well. The Whitesmith gooseberry is of this character: it bears a noble berry, but, though an abundant bloomer, the fruit falls four years out of five, from the want of leaves to shelter it from the moisture, which often freezes upon the trees in April. Such distinctions must give great facility to artists, in depicting the costume of trees when in blossom, if gardeners direct the attention of artists to such distinctions well: but as it is, an engraving is perfected much in the way of what is done at the herald's office, "where the engraver is never ordered to Exeter Change before he tricks out his heraldic lion."

Respecting the pictorial department, I confess I myself wish to have good painted specimens of fruit, the colouring to be given in the mature state; for it will otherwise give no index to the fruit it represents, which, like the chameleon, frequently alters its appearance from one shade of colour to another: but, perhaps, you, knowing the general opinion, may deem such delineations too costly; and perhaps yours may, through economy, be scarcely sufficient guides to common practitioners. You will remark that the description should be under

certain heads; for fruits, like flowers, must undergo the routine of examination. It is not by the leaf or the petals that either are found out, but it is by progressive examination that the business is completed.

I observe you have etched the seeds (Vol. III. p. 326. *fig.* 117.); it is a part of the fructification that I never attended to, but, no doubt, a leading feature in distinguishing fruits.

I have considered the easiest method of taking the size and shape of fruit to be, dividing it through the stalk, core, and apex, particularly delineating the insertion of the stalk, and shape of the apex, which, in fact, is the calyx of the flower, more or less retained; the section laid on paper, and the shape traced by a pencil, gives the figure completely in a second: but upon the admeasurement and drawing of fruits and flowers, I will address you at some future period, when I have more leisure, and am in better mood for such matters.

January, 1828.

W. R. Y.

ART. XIX. *Abridged Communications.*

1. *CAPE Broccoli*.—This is grown in great perfection in the following manner: — In an open, warm situation, during the first week in June, mark out holes in rows 3 ft. apart, and nearly 2 ft. over; dig out the holes to the depth of 1 ft., fill half up with rotten dung, and cover this with 2 in. of the mould, which will leave a cavity of 4 or 5 in. below the surface; on this sow seeds thinly, rake in, and dust the surface with soot; when the plants have risen 3 or 4 in. select three of the strongest to stand for use, earthing up as they advance, and watering if the season be dry.—*William Boyce. Kingscote Gardens, Sept. 23. 1827.*

2. *Reed Mats*. — These are not used in gardens so much as they deserve to be. Many beds of useful and ornamental plants require temporary covering, either from the winter's frost or summer's sun. Flower-beds, as those of tulips, &c., may be protected by the simple contrivance of leaning two mats against each other, like the roof of a house, and fixing them to a frame of stakes and poles, on which they may be rolled up or let down at pleasure; or if each mat were stretched and fastened to thin ledges of wood and painted, they would be more durable, and withal so portable, that they might be used for any purpose, and at any time. — *S. April 20. 1828.*

3. *To keep the Common Blue Plum*. — Glass vessels, or small wooden casks made air and water tight, are used for

this purpose. When ripe, the fruit are gathered with great care (the hands being covered with soft gloves, and only the stalks touched, in order to preserve the bloom), and laid one by one in the vessel till it is full. The vessels are then closely covered by wet bladders so as to completely exclude the air, and buried in the ground, or suspended in cisterns, wells, or cellars, out of the reach of frost. In February or March they may be used, and, if the above precautions have been taken, will be found excellent. The vessels should be small-sized; as the fruit remain good but a very short time after being opened. — *T. A. Meyer. Clapton Nursery, Jan. 3.*

4. *To keep Pears.* — In the north of Germany they keep winter pears packed in wooden boxes or casks, interlayered with clean sweet straw, closely shut down, and placed in a room out of the reach of frost. The fruit require examination every month, that those beginning to speck may be used or taken out. — *Id.*

5. *Management of the Fig.* — In the autumn, before the leaves drop from the tree, pull off all the green fruit, because few of them will survive the winter. This, however, should be done before the leaves fall, otherwise the wounds do not heal. It is attended with this advantage, that where one fruit is pulled off, two generally burst from the place in the following spring. If the trees (in pots) are placed in an airy, yet sheltered situation, and carefully defended from frost during winter, they, under ordinary management, yield plentiful crops the ensuing summer. — *Id.*

6. *Protecting Vines from Spring Frost.* — In the west of Germany, where the vine is extensively cultivated, especially near the Rhine and Moselle, the young shoots of the vine are often killed by night-frost, which at once destroys the crop of the present year, and injures the trees for several years to come. To avoid this misfortune, the husbandmen, on evenings when they expect a frost, light a fire on the west side of the vineyard, and keep it up all night. For this purpose, they collect green boughs of trees, wet straw, rubbish, hay, weeds, or any other litter which will burn slowly, and emit much smoke. This remedy is effectual, and, if neglected, the vineyard suffers; the early check prevents the ripening of the wood, and, without this takes place, no great crop can be expected in the following year. — *Id.*

PART II.

REVIEWS.

ART. I. *The Planter's Guide, &c.* (Gard. Mag., Vol. III. p. 460.)
By Sir H. Steuart, Bart. LL.D. F.R.S.E. &c. Reviewed by
Mr. JAMES MAIN.

Sir,

I AM under considerable obligations to you for having imposed on me the very pleasant and instructive task of reviewing the excellent work lately published by Sir Henry Steuart, Bart., of Allanton House, Lanarkshire.

As it treats of a particular branch of a business with which we have both been pretty intimately acquainted, I enter on it the more readily, because it will serve to renew former trains of thought, recal laborious exertions, and at a time too when we still can appeal to objects which are the living witnesses of our success, or the worthless marks of our errors.

The work is every way worthy of the author, and deserves the notice of every planter and landscape-gardener in the kingdom. The subject is illustrated by the researches of the scholar, the sagacity of the philosopher, and the experience of the practical phytologist. Its principal feature is the practicability of giving immediate effect to ornamental wood, by the transplantation of large trees.

This has, you know, always been an object of great interest amongst planters; and has been attempted with various success, in all ages. The history of these attempts is faithfully given by Sir Henry. All the practices and opinions of the earliest writers, contained in Grecian and Roman literature, are brought into view; and also all the mighty works of European princes and others, whose attempts have been recorded. Copious notices of what British planters have done in the removal of large trees during the last century, and down to our own times, are also presented, with many excellent observations. Here, however, notwithstanding diligent and extensive enquiry, Sir Henry has not been apprised of all that has been successfully done in this way; merely because the practice of removing a few trees, to answer some particular local object, was so common an expedient, that no particular notice was taken, and certainly very seldom recorded, save

in the red book of the designer. His account, however, of the general practice in England, for the last forty years, is perfectly correct; and all his objections to, and condemnation of, the malpractices attending it, are no less relevant. Indeed, it is but justice to affirm, that it has remained for him to *réduire* the process of removing large trees to a regular system, founded on natural principles, and by judicious rules of operation to enable the planter to secure to himself every advantage he may have in view, or which is derivable from such expedients.

Sir Henry's opinions and practice are incontestibly confirmed by his uniform and extensive success, and to which he naturally and triumphantly appeals. It follows that he must wish that his system should only be examined by practical men, who can attest their opinion by experience: this, therefore, renders it necessary that his reviewer should in this place give some account of how far he is qualified for the task, by giving names and facts, which will speak for themselves.

In the summer of 1795 I entered as gardener into the service of the late Thomas Hibbert, Esq., of Chalfont House, Buckinghamshire. At that time, there was groundwork going on at Bulstrode, then the seat of the late Duke of Portland, as well as at Chalfont House, under the directions of Mr. Ireland, then foreman for Mr. Lapidge, one of the successors to the business of the celebrated Brown.

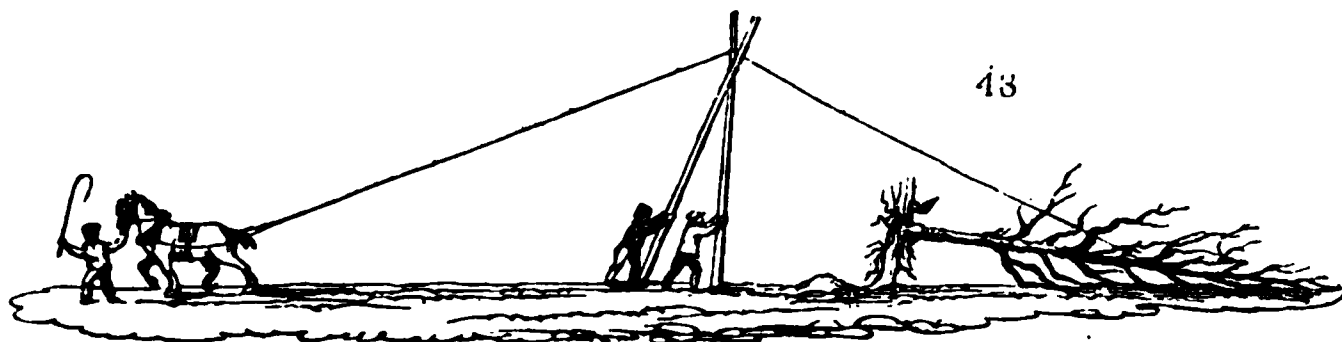
I know not what was done by Mr. Ireland in transplanting large trees at Bulstrode; but at Chalfont House he removed some very large ones most successfully, particularly a white poplar, at least 60 ft. high, and 14 in. in diameter. This tree was planted to break the hedge-like appearance of a row of fine old oaks, which stand on the bank of a stream, a little below the arch over which the coach-road passes from Chalfont village to the house. The branches of this tree were partly cut in, when planted, but it succeeded admirably, and is now a stately tree, 90 ft. high.

About this time, I think, Mr. Lapidge gave up business, and the works at both places were discontinued. Mr. Ireland removed to the late Samuel Whitbread, Esq., or to Woburn Abbey, in Bedfordshire, I am uncertain which; one or two of his sons, I believe, are still at Woburn.

Soon afterwards, the works at both the above-mentioned places recommenced, and also those at Shardeloes, the beautiful seat of T. T. Drake, Esq., and at Cashiobury Park, the seat of the Earl of Essex, all under the immediate directions of Mr. Repton, then in the zenith of his fame. In all these places every manœuvre of the art of landscape-gardening was executed.

Mr. Hibbert, in 1799, had made two purchases of 152 acres of enclosed land, immediately abutting on the north-west side of the old park of Chalfont House. This required to be dressed in the same livery with the rest of the estate; and the park was enlarged by the addition of 31 acres of meadow land, which particularly called for the "immediate effect of wood" to mark the property, extend the scenery, and give a unisemblance to the whole. The principal features were marked out by Mr. Repton, and the execution, choice of trees, &c., were committed to me.

With full command of men, horses, and machines, many trees of various heights, from 15 to 40 ft., were transplanted, and in general safely, by means of a common timber truck. This was a very high and strong machine of the kind, and on the same principle with that used by Brown. The only fault in its construction, either for the transport of living trees or stocks of timber, is the difficulty of raising the pole, owing to the ends of the axle-tree being made drooping, to fit the oblique dishing of the wheels. But some of the trees which were translocated, especially horsechestnuts, were taken up with larger balls than even, by extra-bolstering, the truck would carry. For these we had a low oaken sledge, 5 ft. by 4, running on low block wheels before, and resting on smooth iron slides behind. On this, after the tree was pulled down, the root was rolled like a wheel, by involving chains fixed as low as possible on the opposite side, by a horse or two, driven steadily. When such weighty trees were drawn to the hole where they were intended to stand, and rolled off the sledge into one side of it, the tree was raised by the horses with the utmost ease, by means of two poles, 20 ft. long, crossed, and made fast together about 2 ft. below their upper ends. Over this crossing the rope by which the tree was pulled down (being still attached) was passed; the poles were then elevated across the line of draught (which was directly from the butt of the tree); the horses were hooked to the end of the rope, and gently moved forward; and thus, from the elevated direction of the rope from the tree to the crossing of the re-



sisting poles, brought the tree upright. (*fig. 48.*) In raising a tree in this easy way, a little judgment is necessary in keep-

ing the poles 2 or 3 yards apart at bottom, that they may lean rather towards the tree till they receive the full strain of the draught, and that they may be at such a distance behind the horse as not to drop on him in their fall when the tree is up.

All the largest trees (except those of ash and elm, which stood in the old hedge-rows) which now stand in the meadow ground laid to the park, viz. spruce firs, alders, limes, elm, and beech, were chiefly planted in this way; and two circumstances respecting them are strongly corroborative of Sir Henry's principle; and as these were conclusions of my own, long ago come to from experience, I here notice them with great pleasure, namely, *that those trees which were not lopped at all did best, and that I ruined the beech trees entirely by pruning them.* I may also add, that I always chose single, stout, well-formed trees for transplanting; not, indeed, for the same physiological reasons which have guided Sir Henry, but merely because they were more conveniently come at in taking up, and free from obstructions in the transmission. Another circumstance in my case I am also bound to admit, as it yielded a facility which others may not have the advantage of, viz. many of the transplanted trees grew on a thin stratum of rich bog earth, reposing on a bed of moist gravel. When a tree had a trench dug round it at the distance of 3 or 4 ft., the whole mass of roots rose together, leaving the gravel clean and bare; no tap-root to puzzle, nor much lightening of the ball requisite, and little danger in carriage of roots so compacted. Such circumstances rendered what I had to do an easy affair; and, as the same thing was done at almost all the places where Mr. Repton and others were employed, I considered my share of the process as very trifling indeed, and as nothing at all extraordinary.

Mr. Repton was very fond of the hawthorn. Whole groups of them, having a large tree or two intermixed, were planted, to account for certain sweeps and flowing lines which sometimes were required over unoccupied spaces of lawn, to break continuous lines, or as accompaniments to large single trees. Many of these were drawn from among the old copses and underwoods on the estate, transported in one-horse carts, and succeeded admirably, with no other care than taking them up carefully, lopping off a few of the straggling branches, and keeping them watered during the following summer.

By such means of transplanting, I never saw much difficulty in the work, and would have planted any extent of ground in the same way, and all without previous preparation of either ground or plants: but in regular and close planting,

whether of shrubbery or of forest trees, we always trenched the ground 22 in. deep. In field planting, that is, laying down permanent woods in fields or masses of from 2 to 20 acres, our plan was this: — Double or trench plough the land in the autumn, and again early in spring, as soon as dry enough; clear from root weeds, by harrowing and picking; sow the seeds on the surface, and plough in; into 2-'bout lands, if the ground be thin and wet; into 8-'bout, if moderately so; and into 16-'bout lands, if the soil be dry. When the seeds were ploughed in, and the ground harrowed down, we next planted the nurses, viz. Scotch pine, larch, and stone pine, all over the surface, at the distance of 10 ft. apart, and at the same time dibbed in Spanish chestnuts. The proportions and kinds of seeds were, —

per acre	{	1 bushel acorns,	}	mixed and sowed together, broad cast.
		1 bushel ash-keys,		
	{	$\frac{1}{2}$ bushel beech mast,	}	mixed and sowed together.
		1 lb. Scotch pine,		
		1 lb. larch,		
		$\frac{1}{2}$ lb. furze,		
		$\frac{1}{2}$ lb. common broom,		
		1 peck Spanish chestnuts, dibbed in.		

If any patches of the ground were naturally wet, Weymouth pines, birch, alder, and willow truncheons, were put in for nurses. Woods planted in this way rise rapidly into beauty and value. The woodman goes over regularly every year, lopping or cutting away the nurses, directing the superiors, and cropping the furze or broom which may be overpowering the seedlings.

The superior woodlands on the estate of Chalfont House show the effects of this method of establishing profitable plantations. They are at once an annual source of income, and a perpetual nursery for supplying young trees for transplantation. It was first practised by Charles Churchill, Esq., a former proprietor of the estate, who, with some assistance from Brown, and, I think, Richmond, laid out and planted the park, which remains a monument of his fine taste, his abilities as an ornamental, and his skill as a profitable, planter.

Mr. Hibbert, at considerable expense, carried forward Mr. Churchill's design, as well upon the old as upon the new portions of territory. The picturesque old castellated mansion, partaking of both Saxon and Gothic architecture, received a new contour and façade from Nash, while the accompaniments, of all which I directed the execution, were marked by Repton. Brown's canal-looking lake, too similarly extended by Lapidge, still remains; but it is here tolerable, because the character of the place is unmixed beauty. The river-dammed

lake, of about 5 acres, never freezes: hence, perhaps, the name Chaudfont; though, in *Doomsday Book* it is called Celfunde, and now Chalfont.

I might here tell of what I have heard has been done at other places; but as this would be only hearsay evidence, and as Sir Henry strenuously demands identical facts and instances, I forbear, contenting myself with the foregoing (perhaps over-long) detail, as one proof that transplanting large trees and underwood has been more extensively practised than Sir Henry, notwithstanding his assiduity to get information, seems to have been aware of. Any traveller between London and Aylesbury (*via* Uxbridge) may witness the truth of what has been stated above.

But I now come to do Sir Henry that credit which candour and justice imperiously require. This can only be done by a brief comparison; and, as far as my experience and knowledge of the process go, I feel bound to say, that all our exertions in Buckinghamshire were altogether fortuitous. No previous preparation of either tree or its intended new station; no physiological principle to guide either our choice of the object or our knife, except only what every gardener intuitively knows; no consideration as to past or future position, save only the application of a very old British horticultural rule, viz. leaning the head a little to the south-west: in short, no system of operation whatever! But at Allanton the reverse of all this is the case. Every operation is preconceived, designed, and preordered. In this the excellence of the "preservative system" consists; on this chiefly the success depends; and herein, with the practical adroitness of the labourers, and careful exactness of manipulation, the superiority of Sir Henry's practice appears.

Every one must admire what Sir Henry has done; every one must thank him for the publication now before us; and many proprietors, whose mansions happen to be barely located, will exult in following the example set them at Allanton House. It is called the "preservative system;" and, in my humble opinion, not so much because it *insures* the life of a translocated tree, but because it may *preserve* many a beautiful plant, which, for the purposes of improving park scenery, *may be doomed to the axe*.

Henceforth the landscape-gardener will be vested with new powers. The naked expanse may be quickly clothed; the uninteresting flat varied; deformities screened; the rigid winds qualified or diverted; and, above all, valuable intruders on the view *banished without regret*. Many a fine vista has been blocked up, and many an interesting object shut out, for the

sake of some *fine young thriving tree*, endeared to the owner by the hand that planted or the arm that watered it. But this need never more be the case : the favourite may be removed to an equally genial spot, where it may unoffendingly remain, with all the ideas associated therewith.

Sir Henry's physiological knowledge agrees with the first authorities of the present day. From this fund he has drawn judiciously, and, on one fact elicited by that science, has founded one chief trait of his management, and to which he attributes much of his success. This fact is, that branches and roots are correlative parts of the plant, and that any damage sustained by the one must necessarily affect the other. That damage at the root hurts the branches is, and always has been, the general belief; but that severely pruned branches weaken the roots has never been so generally understood as to be regarded as a rule in practice. This, nevertheless, is perfectly consistent with our ideas of vegetable economy, as the action of both root and head must be reciprocal, and no developement of the one can take place without the assistance of the other. In every tree there is a store of expanding powers, a previous accumulation of vegetable life, which serves for future extension and developement; and, therefore, to lessen this by violence, either to the root or branches, must weaken the whole system of the plant. Hence, our author argues, that to deprive a tree of its principal branches is also *to deprive the root* of that stimulus on which it depends.

Thus, directed by a natural principle, he leaves the head *unpruned*, and is successful; and this is the reason he gives why former transplanters, who always lopped their trees, have been so unfortunate.

On this branch of the subject, it is necessary on your account, perhaps, that I offer a few words of explanation. Sir Henry has been pleased to notice, with much commendation, what you have heretofore published as your opinion and practice on this particular point of arboricultural management. I dare not, as your friend, echo back to Sir Henry, in similar terms, the encomiums bestowed on you and your writings by the baronet. It would look too much like a counterpoise of adulatory compliment. But, as he has candidly, and I may add, fairly, included you amongst those whose practice or opinions he regrets and condemns, I feel it necessary, as I have already said, to explain (not to apologise or justify) on your behalf, as well as on that of Messrs. Pontey and Sang, an expression which contains, it seems, an opinion of theirs, and is quoted by you without note or comment. This opinion is, "That strength

is gained as effectually by a few branches to a head as by many."

Now, to explain this certainly unguarded dictum of those highly respectable authorities, it is necessary to premise, that there are various objects which the cultivator has in view in pruning as well as planting trees. Woods which have been planted or kept entirely with a view to profit, are managed accordingly; the inter-distances are so regulated, that the whole shall rise as soon as possible, into *straight, marketable* timber. The manager's knowledge of the qualities of the soil, situation, and nature of the trees, will determine the distances of the principals, and his future endeavours will be chiefly directed to obtain a leading shoot to form a straight bole; and, in pruning, he will as much as possible encourage the leader, by displacing rival branches, in order to throw the growth into the stem. Now this pruning is executed, not only with reference to the individual, but to all the trees which immediately surround it; and, according to the inter-distances, their heads are left more or less extensive, so that the whole form one united canopy of foliage. In this style of raising timber, it is the quantity of *saleable stuff per acre* which is looked to, and nothing else.

Whether or not a greater quantity of timber could be raised by leaving each individual tree at such a distance as would allow each to assume its natural form, is a question among woodmen, which I believe is yet undecided. An acre so planted, and undercropped with the best underwood, is, however, generally allowed to be the most profitable; in this case, no pruning after the first five years is ever thought of; and certainly no wood-steward would ever think of pruning a *single* tree: because the peculiar value of the latter is fine form and graceful outline, while, with regard to the former, the quantity of straight timber is the sole object.

In this artificial mode of raising timber, the most intelligent and experienced men may differ in opinion; and I more than suspect that both Messrs. Pontey and Sang, as well as yourself, have been misunderstood, if you neglected to mark whether it was the *artificial* or *natural* management of timber trees of which you were writing. In raising compass-timber for the navy, no one surely would "rudely control" the natural tortuous branching of the oak; and, on the other hand, no wise planter, whose object is raising poles for the mast or house-builder, would allow a lateral rival branch of any size to remain. Thus the passage in your *Encyc. of Gard.*, p. 582., so strongly objected to by Sir Henry, may be considered as both right and wrong, accordingly as it may be applied.

But to return to the question, how far pruning is right or wrong; according to physiological facts and reasoning, no one can withhold for a moment his consent to the able arguments brought forward in support of the position stated by Sir Henry. It is impossible that any man in his right senses can expect magnitude of stem and active roots, without a corresponding magnitude of head. This has always been the settled opinion of you, myself, and every one else acquainted with vegetable economy; although, for particular purposes, we may, and indeed must, occasionally depart from natural principles to obtain artificial results. And as to the charge of unnaturally lightening the heads of transplanted trees, I frankly admit, and I may venture to do the same for you, that we have certainly embraced the plausible practice of thinning the top, not altogether as a means of assisting the growth, but as a precaution for securing the position against winds. In cases where the roots are curtailed and broken, our physiological tenets may have been neutralised by the urgent calls of the mutilated plant, which seemed loudly to demand a provisional equalisation of its conservative organs.

But, according to Sir Henry's method of proceeding, there appears no cause for the dereliction of physiological, common professional, or rather practical rules; because previous preparation, and the extreme care bestowed in taking up, transporting, and replanting, dispel all fear of success; no violent endeavour at equalisation of branches to the root seems necessary; the patient preciseness of placing and "handling" the roots, the consolidation of the fresh soil, the immediate and subsequent waterings, are all processes of so conservative a character, that a failure would be really a wonder! All this is *entirely Sir Henry's own*, and very different from any thing I ever saw or practised out of a garden.

The prerequisites which the Allanton system (for so it henceforth deserves to be called) requires are, numerousness of roots, strength and hardihood of stem, large and well balanced branches, and suitably prepared soil. These, with the precautions above described, a proper truck, and two or three steady horses, are the means by which Sir Henry Steuart has embellished his own park, and, by advice, those of some of his friends, thus setting a bright example to all improvers of landscape.

I had written thus far, when I received from you the *Quarterly Review* for March, 1828, with the information that it contained a review of the *Planter's Guide*. I turned to, and read with pleasure, this very able paper. It is the offspring of a penetrating mind and powerful pen [Sir Walter Scott]. The *Planter's*

Guide has supplied a theme from which he gives a rapid yet faithful sketch of the art of landscape-gardening. He is perfectly cognizant of all that has been done, said, and written on the subject. The artificial splendour of the Italian, and the simplicity of the Dutch styles he properly appreciates, or no less properly depreciates; exposes the tameness of Kent and Brown; detects the wavering of Repton, in his defence of his "great self-taught master," in his controversy with the accomplished and accurate Price; and lashes the feeble disciples of the latter, in their puerile attempts to form the irregularity of nature, by bounding their groups and young groves by crinkum crankum and distorted outlines. If the reviewer is a young man, he has borrowed largely of Sir Uvedale Price: he appears covered with the same armour, and attacks with the same weapons, adopts his principles in design, but does not condescend to teach the execution; but, as the reviewer promises to resume the subject, we hope the difficulty of applying Price's principles to practice will not be forgotten. Condensed as this sketch is, it contains much excellent matter; like the rising or setting sun shining into the entrance of a grotto, it has "lit up" objects, and gems, and forms, which before were lost in obscurity, or which only gleamed feebly in darkness. His ideas of the embellishment suitable for a palace or baronial hall are sterling, and rationally defined; his admiration of sculptured forms, of the dignity of straight lines*, and his opinion of how far they are admissible in high-wrought scenery, are judiciously correct; and, indeed, his conceptions of the whole subject are of so valuable a cast, that we may safely predict, if he were inclined to "make a book," enriched with such ideas of fine taste, and brightened by the pleasing sallies of his excursive fancy, it would be a high treat, and as valuable as acceptable.

I have much satisfaction, and am indeed not a little proud, to state that I most cordially agree with the reviewer in all he has said in commendation of the Allanton system, wherever that system is practicable.

That Sir Henry's discovery will be a nullity to many proprietors of land, and even of fine thriving wood is, however, undeniable. Every one having plantations may not have trees suitable for transplantation. As soon as the thriving stripplings of a young wood begin to crush each other, a wish constantly presses itself on the owner to have power to transplant the interior supernumeraries: but such are unsuitable, both in

* When Mrs. Siddons sat to the late Sir Joshua Reynolds for her portrait, she remonstrated against his bringing down one of her ringlets *too low*. Sir Joshua answered, "Madam, pray allow me the *dignity* of one straight line."

habit and figure, for the Allanton system. The reviewer, therefore, pertinently asks, "where is the planter to find such trees as are proper for being transplanted?" Sir Henry replies, "that there are few properties, however small in extent, or unimproved by plantations, which do not possess some subjects endowed, perfectly or nearly so, with the protecting qualities. The open groves, and scattered trees around old cottages, or in old hedge-rows, where not raised by an embankment, which gives the roots a determination downwards, are invaluable to the transplanter. They are already inured to the climate, and are fit for removal."

On Sir Henry's physiological averments the reviewer has also expatiated freely. And here I wish to be respectfully cautious, lest I should appear to be looking for "spots on the sun;" but such impertinence I disclaim. I regret, however, that I am, as many practical men are, compelled to conclude that some matters may be over-sublimated in the scientific retort. In p. 329. et seq., the reviewer seems to have shot a little beyond his text, and strained it in his exposition. Something like sentience and volition are, I humbly conceive, improperly attributed to plants. Trees are said to *clothe themselves* with a thicker bark, stouter stem, &c., when the real fact is, that this thicker clothing is produced by the action of the air and light. In endeavours to illustrate any part of an obscure science, the significant terminology of that science only should be used, as Sir Henry has wisely done: but terms such as drawing, sucking, searching, pumping, &c., all implying *self-action*, are quite *outré* when applied to beings altogether *passive*; and though the practical reader may make a shift to comprehend the import, and though generally such terms may be only considered as words of course, yet they are liable to puzzle and distract the novice. In page 329., line 19. from the top, a misprint of the word "latter" instead of "former," may also tend to mystify this otherwise pretty clear physiological lecture.

It only remains for me to mention the expense of such achievements, and this I shall take from the Review.

"The committee of the Highland Society who were appointed to examine the improvement in Allanton Park, remark, that the transplantation of grown trees belongs to the fine arts, rather than those which have had direct and simple utility for their object, and the return is to be expected rather in pleasure than in actual profit.

"Value, no doubt, every proprietor acquires, when he converts a bare common into a clothed, sheltered park. But

except in the article of shelter, he has no more immediate value than the purchaser of a picture.

“ The difference, however, between Allanton, with its ornamented park, and Allanton as it was twenty years since, would soon be ascertained, were it brought into market.”

The expense for each tree is calculated by Sir Henry and others, at an average of about from 12s. to 15s. for removing a tree, from 100 yards to a mile distant, and from 25 to 30 ft. high.

Thus having gone over what you have been pleased to propose for me, I hope it may meet your approbation, and prove useful for your publication.

I am, dear Sir, yours, &c.

Chelsea, April 9. 1828.

JAMES MAIN.

ART. II. *Lectures on the Elements of Botany.* By Anthony Todd Thomson, M.D. F.L.S. &c. 8vo. Vol. I. Plates and Wood-cuts. 1l. 8s. Reviewed by INQUISITOR.

Sir,

IN the earlier ages, the art of gardening was confined to the homely heads and hard hands of its practitioners ; experience was the only guide of their operations, and necessity the only incentive to exertion. Utility and beauty were the only recommendations of the objects of the gardener's care, and circumstances of nature or civilisation lent the means, and governed the extent, of his practice. Science had not stooped from her high station, to elucidate the physical properties of vegetation, and assist the intentions of the practitioner, or explain to him the principles of his art. The physical philosopher employed himself in scanning the diversities of animal matter, and ransacked the bowels of the earth for the lifeless, though precious minerals, while the most beautiful examples of vegetable organisation on its surface were neglected.

But, in the “ march of intellect,” the researches of the philosopher could no longer overlook the physical constitution of plants ; and this being once taken up, it increasingly occupied the attention of the naturalist, from beyond a century back to the present time. Many have immortalised their memories by discoveries and writings on this branch of science ; and though never pursued with more diligence than at the present moment, nor such advances made in the knowledge of it, still there appear many uncertain points of opinion to be settled, before our perceptions of it can be complete or satisfactory.

This new study is called Botanical Physiology, and has been much advanced by the united sciences of anatomy and chemistry ; and though the anatomist has been foiled in applying too closely his science to vegetable economy, and the chemist, perhaps, has been led too far by his affinities and assimilations, still the union of these important studies has formed so excellent a vocabulary for the subject, that, though it may at first darken the descriptions, and puzzle the novice, it will, in the end, be the only means of conveying correct ideas of the subject.

As a practical man, and, like my brethren, always in quest of botanical information, I have waded through almost every thing that has been published on this head ; many of these authors I have traced along the same beaten track without much improvement ; but I have lately met with a volume of lectures (the title of which I have written at the beginning of my letter) which, though published in 1822, is, I think, not so much known as I am sure it deserves to be. And, though it necessarily contains much which has been published before, yet there is less theoretical matter to be objected to, and more practical demonstration to be commended, than is found in any other published book on the subject. On this account I beg leave to present you with a few remarks on the work ; which, though of trifling import in themselves, may be acceptable to some of your young readers, to whom it may be useful to show where even science herself may go astray, and how necessary it is that mere speculation should be corrected by practical experience.

The work is dedicated by permission to the President and Fellows of the Royal College of Physicians of London, in "the hope that botanical science will promote the future study of that branch of knowledge, as a part of medical education." In the preface, the author says that it was not his intention to publish these lectures, till, by chance, he saw a MS. copy of them exposed for sale in a bookseller's shop. "Reflecting, therefore, that any peculiar theories connected with vegetable physiology, and many facts taken from authors might be misstated, justice to my reputation required that I should rather publish my own opinions, than run the hazard of them getting into the press in a mutilated condition. In revising my MS., however, for this purpose, I found that the view of the subject opened before me, that one investigation led on to another, and that a frequent appeal to nature forced me to reject much of what I had formerly regarded as truth ; so that the work imperceptibly extended far beyond the limits I had allotted to it, and now retains little more than the name and the arrangement of the original lectures."

"The work, therefore, is published without any claim to indulgence, but with a conviction that, although many objections may be raised to the doctrines it contains, yet, if it have merit, that its faults will be lightly handled, and if it be undeserving of approbation, that even the countenance of the learned body, under whose patronage it is sent forth, cannot alter the sentence which justice should dictate."

Under this license I shall glance over the work, and "blame where I must ; be candid where I can," and without fear, as it is without intention of hurting the feelings of the author, freely point out what appears faithfully natural, and also as strongly mark what is only imaginary or inconsistent.

The first lecture contains an introduction ; utility of the science, method of studying it, and plan of the course, the whole particularly interesting to the young botanist ; explains the terms botany, physiology, systematic botany, and vegetable toxicology. The first is that branch of natural history which concerns vegetables ; the second, that which treats of the structure, habits, and properties of plants ; the third refers to the classification of them by their exterior character, and the last refers to their poisonous qualities. Then follows a concise view of the rise and progress of botany and the kindred sciences, from the earliest ages to the present time, evincing extensive reading and diligent research ; all which is enriched by biographical sketches of eminent botanists. To the interesting particulars of the life of Linnæus, the author takes occasion to remark, that "The rage of making new systems and arrangements of plants has passed away, because no longer necessary ;" and farther on he adds, in a compliment to Jussieu, that "he has immortalised himself by his *attempt* to arrange plants in a natural

order." This is only noticed in passing, to show the lecturer's opinion of Jussieu's system in 1822.

The next branch of the lecture is on the utility of botany. Here is noticed the abandonment of vegetable qualities by the medical empiric Paracelsus, in favour of chemical qualities drawn from the mineral kingdom; and, though the last are duly appreciated, Dr. Thomson thinks the change in so far unfortunate, as it has withdrawn the attention of the physician too much from the study and analysis of vegetable remedies: he regrets this the more, because plants are naturally classed by their predominating qualities; as, the *Cruciferae* are salutary; the *Apocýneæ*, suspicious; and the *Umbellíferæ*, deleterious; and also vary in quality, according to their habitat being moist or dry, calcareous, or arenaceous; a knowledge of such circumstances being always useful to the medical practitioner, as thence may arise discoveries valuable to his country and to the human race. Some pertinent observations are added, on the necessity of the medical staff of an army being capable of identifying the plants round the camp, as affecting or not the health of the soldier; adding, that "the very plants which cover the soil, clothe with a prophetic character the botanical physician, and enable him to anticipate the danger which it is requisite to avoid." He gives the names of several eminent physicians who were also botanists; and shows not only what has been added to the *materia medica* by such men, but also the extreme danger of a physician being ignorant of vegetable toxicology.

From these observations on the necessity of botany being a part of medical education, he adverts to its being also necessary for the farmer, which, united with some knowledge of chemistry, would invest him with new powers in the successful prosecution of his important occupation. On the advantage of botany improving the mind, the lecturer has the following remark: "Many branches of knowledge have this effect; and, although they cannot be considered as directly advancing our interests or our fortune in our intercourse with mankind, yet the possession of them affords a more permanent satisfaction than either wealth or honour can bestow."

On the mode of studying botany he observes, that vegetables, like animals, are organised living bodies; and, though there is no difficulty in distinguishing them from animals and fossils, yet the line of distinction is, in some instances, hardly perceivable; that plants are perishable, draw nourishment from the soil, and are capable of reproduction; that they possess irritability, by which the nutriment they imbibe is moved through every part of their bodies, converted into various secretions (separations), and assimilated (converted to the same nature) into the substance of the plant itself; but they have no sensibility, though even this has been attributed to them by some writers. That part of the subject, therefore, which refers to the vegetable system, should first engage the attention of the student. It constitutes phytology, and comprehends the anatomy and physiology of plants. The anatomy of plants is more difficult than that of animals, but less disgusting; and, without the microscope, we can have no idea of the structure of plants, and consequently no correct notions of their functions can be obtained: but, by combining with anatomy and terminology (proper terms), the study of physiology, on which modern chemistry has thrown the most brilliant light, the tediousness of acquiring the terms of art is diminished, and much interest excited in the pursuit.

To obtain all this, the lecturer recommends the works of Smith, Rousseau, Curtis, Willdenow, Mirbell, Sims, Keith, &c. The respective merits of these writers are noticed in the course of the lectures; and Jussieu's system, which now divides the botanical world, he again mentions without commendation; alleging, as his reason, that "in the present state of our knowledge, a natural system cannot be formed."

Lecture 2. — Definition of a Plant; General View of vegetable Functions. This commences by noticing the three grand divisions of nature, viz.

animals, vegetables, and minerals; the difficulty of ascertaining where the animals end, and the vegetables begin; and whether the polypi (compound or divisible animals) should rank as animals, or be considered as the highest grade of vegetables; mentions the various definitions given of vegetables, and offers one which he considers the least objectionable, viz. "*A plant is a living organised body, which requires food and air for its support, grows, propagates its species, and dies; and differs from animals in being nourished by continued absorption by its external surface.*" This definition is sufficiently comprehensive and just; and had the word "absorption," which here infers an active rather than a passive principle, been changed into one implying that a plant is a *recipient* only, the definition would, perhaps, have been as correct as it is concise.

The lecture then proceeds "with a general view of those functions which plants possess in common with other organised bodies," i. e. with animals. A plant is composed of solid and fluid parts; the former comprehending fibres, which are endowed with elasticity and contractibility, and vessels in which fluids move. Those of the same species have always the same parts of structure, which are evolved in the same manner; and, except the variations which soil, situation, or seasons produce, their specific characters remain unvariable. Although the vitality of vegetables cannot be defined, yet we know it, when present in any object, by its effects, and it may be said to be "that property of matter connected with organisation, which animals and plants possess in common, of continuing life." Both animals and vegetables continue it to their offspring: by viviparous animals, before its expulsion from the uterus; by the oviparous, to the *punctum saliens* (protruding point), which is afterwards the chick, before the egg receives its shell; and by vegetables, to the embryo contained in the seed, long before it is separated from the plant. Vitality is fugitive when exposed to unfavourable concomitants, and wonderfully existent in situations where neither developement nor decomposition can take place. The particular functions of vegetables which depend on vitality, are the germination of the seeds, the growth of the plant, its absorption, respiration, perspiration, adaptation to climate, and resistance to cold. The progressive growth of a plant depends on its vitality; it selects (receives) its nourishment, digests, assimilates, and deposits in its body those secretions which characterise its kind. The simple absorption (reception) of the fluids by the root, and "the circulation or rather progressive motion" or ascent of the sap, depend on its vitality; the sap continues to rise during the life of the plant, which, if almost dead from want of water, recovers on receiving a supply; but, if the vitality be extinct, the corpse may imbibe, but cannot be restored again by water. "Did the ascent of the sap depend on any other circumstance than the living action of the vessels, it would only be necessary, in order to restore any decayed plant, to supply it with moisture in a proper temperature."

All this is very true, and satisfactorily proved; but we should take along with us, that vitality is only one of the properties of a plant, and that without the stimulus of external influences it remains dormant, though not extinct. We cannot see active vegetable life, without also observing the ascent or motion of the sap; but we often witness the ascent of fluids, without vitality: for instance, the syphon, and the effect of "capillary attraction," as it is called, by which a cistern or tub of water may be emptied by merely a bit of list. This, however, is not mentioned as a correction of what is advanced by the lecturer, but only, that while the functions of plants are under consideration, we should look to the exciting causes, as well as to the effects thereof, on the vegetable constitution.

"To the living powers of vegetables we must also revert, to account for the changes of the sap into the *solid components* and peculiar juices of the plant. No mechanical principles can produce those effects; they are opposed to the chemical affinities which exist between the materials com-

posing the substance of the plant; nor can they result from any cause except from that principle which, whilst it is present, gives life and motion to every being that is endowed with it; and, on being withdrawn, leaves the substance to the control of those laws that regulate the combinations of dead, inert, unorganised matter." It was the opinion of Linnæus, and of many others, that each kind of plant selects its own kind of food, which is adapted to the peculiar nature of its secretions. "But there is no need of this supposition to explain the great variety of secretions of plants reared in the same soil, if we admit that vegetables are living beings. . . . Is it more wonderful that plants should elaborate poisons and wholesome food, than that one species of reptile should secrete poison, and another living on the same food should not? In order to prove that no such selection takes place, it is only necessary to rear any number of different plants in water alone; each plant in growing will assume the nature and possess the qualities of its species, whatever that may be: a proof that the qualities are not dependent upon the peculiarities of soil, but on the action of the vital principle."

In all this, every body acquainted with the subject will readily agree; and it is pleasing to see the lecturer thus escaping from one of the old trammels of hypothetical notions, though sanctioned by the constituted authorities of the science; for how often have we read of reports from the laboratory, of analyses of every kind of soil, to detect therein the qualities of the plants that grew thereon. The search was in vain: they forgot that in *the plant itself* there is a fountain for the production of all its qualities, as there is a corculum from whence spring all its forms and functions.

On this point, however, it is necessary to add, that, in respect to the peculiar food of plants, nothing is more certain in practice than that soils become exhausted of the favourite pabulum, or food, of certain plants, and that a change or restitution is necessary; but this refers to the quantity, and not at all to the quality, of the vegetable.

Lecture 3. — General Components of the vegetable Structure. All plants are composed of solids and fluids. The fluids differ in qualities, according to the vessels they occupy, and are dissimilar from the fluid as received from the soil. The solids are membranes, cells, vessels, glandulous textures, woody fibre, and the epidermis. Preservative organs are the root, trunk, branches, leaves, and their appendages. Organs of dubious character are bulbs, gems, and gongyli. The fluids are the sap, and proper juice.

The membrane is that component part of vegetable structure which constitutes its basis: it forms, first, the cellular and glandular textures and epidermis; next, the vascular; then the ligneous fibre; in short, enters into *the whole solid material*. In the descriptions of those parts, the lecturer collects the opinions of all the most eminent physiologists, and shows (by the assistance of marginal cuts), with great accuracy, the various structure of plants. In describing the vascular part, he proves, by experiments, that the different fluids occupy different vessels; which circumstance leads to the conclusion, that the sap, or watery fluid received from the soil, is carried in one set of vessels, and that the proper juices are conveyed in another.

The experiments which prove this are curious, and deserve the attention of every young botanist; and the vascular fabric, as described by the lecturer, and exhibited by his highly magnified representations, present to the eye some of the most wonderful conformations of matter which can be met with in the whole range of nature's works.

The ligneous fibre is a very minute, firm, elastic, semi-opaque filament, which, by cohesion with other filaments of the same kind, forms the proper fibres that constitute the grain, or *solid part* of the wood. It enters also into the composition of another set of layers, that traverse the longitudinal,

named divergent. Whether the ligneous fibre is of original formation, or condensed, membranous, or cellular texture, or obsolete obstructed vessels, is yet undetermined.

The epidermis is that portion of the vegetable structure which is exterior to all the others, being a fine, transparent, unorganised pellicle, generally colourless, sometimes annually deciduous, dispersed as a powder, or existent and fractured into rugged bark, and is a distinct organ.

Such are the principal solid components of the vegetable body. Perhaps they may be resolved into modifications only of the membranous and cellular textures; "but though we allow that the vessels, ligneous fibre, &c., are composed of such substance, we prefer regarding them as distinct components." (p. 102.)

Fluids. When the plant is in a growing state, if an incision is made in the bark, common sap exudes from the wound. "If it were possible to obtain this from the vessels very near to the extremities of the roots, we should be able to discover the real food of plants. This, however, cannot be accomplished," because it soon becomes mixed with the ready-formed vegetable matter, and so becomes altered from its original state. On this account, although there is reason for believing that the food of almost all vegetables is the same, yet no just idea can be formed of its nature from the most accurate analysis of it, when procured from any single plant. The lecturer proceeds with an account of various trials to analyse the sap, and rightly concludes, that the different qualities found in plants are concocted by the system itself, rather than by any extraneous matters received by the roots; adding, that in the present state of our knowledge, all that can be aimed at is the formation of a probable hypothesis, rather than the attainment of truth, deduced from certain experiments. In this mode of viewing the subject, we may regard the sap as consisting of water, which is its principal component, carbonaceous matter, acetate of potash, and carbonate of lime; which ingredients are decomposed by the vital powers of plants.

The proper Juice. "When a plant is cut through transversely, the proper juice is seen issuing from both divided surfaces, but in greatest quantity from the open orifices of the divided vessels in the part farthest from the root; a fact which is ascribable to the progression of the proper juice being invertedly to that of the sap," and is "that changed state of the sap, after it has been exposed to the air and light, in the leaf, and is returning from it to form the different secretions." This proper juice has been found to contain various qualities, and among these *ligneous fibre* has been detected by the chemist Chaptal. This has also been found in the seed lobes in greater quantity than in the juice itself. No woody fibre is found in the ascending sap, although the principles of it are undoubtedly contained in that fluid. "A new chemical combination of these principles takes place; but how this is effected, or by what means the change is produced, we know not; and it is one of those *mysteries* of nature from which human ingenuity will never be able to remove the veil."

The secretions of plants, formed from the proper juice, are numerous, and known under the names of gum, fecula, sugar, gluten, albumen, gelatin, caoutchouc, wax, fixed oil, volatile oil, camphor, resin, gum resin, balsam, extract, acids, tannin, aroma, the bitter, the acrid, the narcotic principles, and ligneous fibre. These are found in different parts of plants, without regularity of distribution, yet are all composed of the same principles, viz. carbon, hydrogen, and oxygen. The lecture concludes with examples and results of chemical analyses of the proper juice and solids of different plants.

The seven lectures which follow contain a minute and accurate detail of the physiology of plants, their structure beautifully delineated by well executed plates, and the characters and functions of the different parts ably described. The structure of leaves the lecturer has closely studied,

and his conclusions are supported by direct and convincing appeals to nature and facts. It is impossible, in this review of the performance, to do the author justice, without encroaching too much on the pages of your Magazine; I shall therefore pass as rapidly as possible over what remains, and notice only what is new and valuable, or vague and questionable; and which will sufficiently answer the end I have in view.

Lecture 4. — Vegetable Organisation. All plants are endowed with conservative and reproductive organs. "An orange tree, bearing flowers and fruit, is an example of all the parts." The root is defined to be "that part of a plant which attaches itself to the soil in which it grows, or to the substance on which it feeds, and is the principal organ of nutrition." (*Keith.*)

It is the reservoir of the prepared juice, furnished by the leaves, in all perennial or biennial plants; is distinguished from bulbs or tubers, which also are reservoirs of the proper juice, as received from the stem and leaves. This was proved by Mr. Knight's experiment on the runner, or umbilical cord, of a potato, which, by absorption of coloured water, showed that the runner had descending, but no ascending vessels. Here the lecturer, as well as Mr. Knight, should have qualified their assertions by the admission, that both bulbs and tubers are produced occasionally without the assistance of either stem or leaves; and further, that it is at least probable that the whole system of tuberous and bulbous rooted plants is *perfected together* by the vital corculum, though not exactly at the same time. (p. 157, 158.)

Fibrils of roots supposed to be annual Productions. The fact is, all fibrous-rooting plants have active fibrils while in a growing state, but not while stationary. Their direction is downward, but it is ascertained, by an experiment of Mr. Knight, that they may be made to grow upwards. (p. 204.) This is easily accounted for: the delicate fibrils cannot bear full air and light; and therefore proceed in any direction in quest of moisture and darkness. Progress towards moisture or manure (p. 103.) must be accounted for on the same principle that leaves turn to, and shoots protrude towards, light. This curious circumstance, which the lecturer says has been attributed by some to a sentient or instinctive principle, is ascribed by him to the influence of the gaseous qualities of the manure extending beyond its actual place, and so attracting the radicles.

The next branch of *Lecture 5.* is on soils, which contains all that chemistry has elicited on the subject.

Lecture 6. treats of the stems of plants, their anatomy, &c.; all which is done most perspicuously, and agreeably to the generally received opinions, elucidated by practical remarks, and divested of many of the fanciful ideas with which previous writers had obscured this part of the subject. There is, however, one very material point, which, notwithstanding it is supported by almost all the most eminent physiologists of the present time, is too abstruse, and liable to objection. It is this: — "The sap is changed into proper juice in the leaf, and returned into the bark, where part of it being poured out in a gelatinous form between the liber and the wood, there becomes the raw material, from which the new zone of wood, in its state of alburnum, and the new layer of liber, are manufactured by the vital principle inherent in the living plant." (p. 351.)

This property of the juice being transmutable into solid timber, is called by other physiologists its "organisable property," and not confined by them to the formation of wood only, but of every organ, root, shoot, flower, and fruit!

Before proceeding to show that all this is exceedingly doubtful, it is but justice to the lecturer to say that he does not go this length, confining himself only to its being the origin of the ligneous structure, and disregarding the proofs that some other botanists bring forward of its validity. His

own proofs of the matter are Chaptal's discovery of ligneous fibre in the juice; opinions drawn from experiments of Du Hamel, Hope, and Knight; from the circumstance of the upper lip of the wound on a tree protruding faster downwards than the lower lip does upwards; but, above all, by "the simple fact, that isolated spots of bark and alburnum are formed on decorticated stems."

Now, without noticing in this place the motion, let us only consider the nature of the sap. The lecturer has already described it as chiefly water, drawn from the earth or air, and impregnated with various qualities existing in the plant; it is elaborated in the vessels and leaves, and thus changed is returned either into the roots of herbs, or into the bodies of shrubs and trees. If extracted from the plant, and submitted to chemical processes, however changed by such means into its hardest concrete state, it still, in all shapes (except only the residuum found by Chaptal), remains a *homogeneous mass*, entirely destitute of organisation. See it filling up a flaw or knot in pine timber, existing many years before, and for ages after the tree is felled, without change: placed once in the alburnum, the very place *where it should have been transmuted*, but still maintaining its simple character; bearing the action of the saw and plane, and even the chissel, without fracture, or decomposition, except by heat. I therefore doubt that ligneous substance can be formed of the matured sap, but think that it originates from the membrane, as already stated in the third lecture. Besides, if I examine a seedling tree, I find both its root and stem formed of fibres; or a tree, when felled, the whole a fibrous structure; a plank cut out of the centre, shows whether it has begun to decay at the pith, and how much is perfect timber; two or three of the outer layers are (if oak) whiter than the heart; these are called by carpenters the sap of the timber, and the outer one of them is called by botanists the alburnum; on the outside of the alburnum is the reticulated tissue of liber, and outside of all is the scabrous bark. Now, all these different parts, except the exterior face of the bark, are found to be composed of *fibres more or less consolidated*: and if we look at the crescive processes going on upon the exterior surface of the plant, we find also, that their attachments and connections are all by means of fibres or cellular matter, which, increasing in size and numbers, enlarge the sustaining trunk. I conclude, therefore, that the sap invigorates, distends, and agglutinates the organs, but doubt whether any of them is formed of it.

On this part of the subject the lecturer is perfectly candid in showing that it is very differently understood by other physiologists. Darwin, and Petit-Thouars after him, maintain that the alburnum is annually formed by the descending radicles from every bud and shoot growing on the superior parts of the tree. This hypothesis, though deserving of attention, is however scouted as being "wholly founded upon assumption." Be this as it may, there are several appearances in vegetation, which cannot be rationally accounted for, unless something of the kind is admitted: and perhaps this part of the subject should rather remain *sub silentio*, under the candid admission of its obscurity (p. 121.), than be asserted in any thing like positive terms.

Lecture 8. contains a most satisfactory description of "the origin and attachment of branches and buds;" and here the lecturer, from the patient and attentive investigation he has bestowed, is enabled to stand forth as the disciple of experience, and advocate of truth. He proves by his figured dissections, that buds, and of course branches, originate in the medulla, and not on the alburnum, as asserted by other physiologists: and shows that the medullary divergent rays so visible to the eye in timber, are the tracks of the gems from the point where they are first formed, to the exterior surface, where they either remain latent, or are developed accordingly as

circumstances are favourable : hence they are properly called " the lateral or viviparous progeny of the parent on whose surface they appear."

The lectures which follow contain interesting descriptions of the stems, herbaceous roots, hybernacles, stem bulbs, gems, leaves, caulinar and foliar appendages. The anatomy of leaves is one of the most curious and valuable portions of the work, and which may be said to be almost all the author's own. The knowledge of the structure of leaves enables us to form a correct idea of the importance of these organs in the economy of plants. We find the vessels which convey the sap from the roots terminating in the leaf, and spreading out their contents through its cells to undergo certain chemical changes, which are essentially influenced by the action of the air and light : we find also a new system of vessels commencing here, which take up again the sap thus converted into *proper juice*, and conduct it downwards, depositing in their course the various secretions formed from it, either in the stem or in the roots, as the nature of the plant requires.

I cannot do further justice to the lecturer by quotations, fearing I have already engrossed too much of your space ; but I cannot forbear remarking on this last, that he is decidedly of opinion that the matured sap descends. That this is agreeable to a very old opinion, and also to a very general belief, is certain ; but I fear that a presumption of the idea has rather retarded, than distinctly advanced, a right knowledge of it. That a retrograde motion has been distinctly observed in the leaf, that there are returning vessels in shoots, and that a French botanist saw the sap descending in the autumn by the vessels of the bark, are all well authenticated facts which it would be petulant to deny ; but that sufficient attention has not been paid to this phenomenon, is evident from the different opinions now held concerning it. I can remember when, with very few exceptions, every body believed there was a circulation of the sap (a doctrine now almost exploded), and an annual return of it to the roots ; but now this notion is partly discarded, and is supposed to belong to the economy of herbaceous plants only ; and, with respect to trees, even the possibility is given up, and instead of the true sap returning to the roots, it is found to be arrested in the stem, and there transmuted into timber, or expended in the production of shoots, and leaves, and fruit, in the following year.

As I do not really understand this part of vegetable economy ; nor by what agency a grosser fluid can sink, either by propulsion or attraction, in such a complex tissue of vessels ; nor conceive where the empty cells are, which receive it, either in the trunk or fibrous roots ; I feel bound to confess my ignorance, in order that the scientific physiologist should take opportunity to clear up this (to me) difficult point ; but chiefly, that some of your readers may be induced by experiment and observation to throw some practical light on the subject.

Should these remarks ever meet the eye of the lecturer, I trust he will excuse the freedom with which I have treated a few of his opinions, and accept my unqualified commendation (such as it is) where so justly due. My observations are nothing more than a part of what the greater number of your readers know, and their only use is to elicit from them, what but for this call, might lie buried in the unobtrusive modesty, or listlessness, of the possessors.

I remain, Sir, yours, &c.

—— Hall, Jan. 19. 1828.

INQUISITOR.

ART. III. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., published since April last, with some Account of those considered the most interesting.*

BRITAIN.

Curtis's Botanical Magazine, or Flower-Garden displayed; New Series. Edited by Dr. Hooker. In 8vo Numbers, monthly. 3s. 6d. col.; 3s. plain.

No. XVI. for April, contains

2812 to 2818. — *Arum campanulatum* (fig. 49.); *Monoclis Monandria*, and *Aröides*. An extraordinary plant, from Java and Madagascar, to Bury Hill, where it flowered in the hot-house. "On the continent of India, and in the Archipelago and Northern Circars, it is cultivated and valued as the potato is with us, and as the yam is in the West Indies. The roots often weigh from 4 to 8 lbs., and often more, each." They are compressed tubers, from each of which is produced a large leaf, from 1½ to 2 ft. high. The flower appears at a different season from the leaf, and is very large and showy. From the top of the tuber arises a short, green, spotted stem, or peduncle, bearing a very large spathe, containing a spadix 10 in. high, its lower half covered with pistils of a bright yellow, and its top expanding into a large, waved, deep purple, granulated head. — *Pitcairnia bracteata*; *Hexandria Monogynia*, and *Bromeliaceæ*. From St. Vincent's to the Liverpool botanic garden, in 1825. — *Lycopodium peruvianum*; *Pentandria Monogynia*, and *Solanææ*. — *Gomphrena globosa*; *Pentandria Monog.* and *Amaranthaceæ*. — *Justicia calycotricha*, *Diandria Monog.*, and *Acanthaceæ*. A desirable inhabitant of the stove, from its showy blossoms, which are of considerable duration. — *Bignonia Collei*, General Cole's *Bignonia*; *Didynamia Angiosperma*, and *Bignoniaceæ*. A shrub, with pinnated leaves, and red flowers springing from the stem remote from the leaves. Figured from a drawing sent from the Mauritius, by Mrs. Telfair, to Robert Barclay, Esq.; the plants are expected soon to follow. — *Bléchnum longifolium*; *Cryptog. Filices*, and *Filices*. One of the rarest ferns in cultivation. It was found by Humboldt in the Caraccas, almost 3000 ft. above the level of the sea; and was also found in, and sent from, Trinidad, by the Rev. Mr. Lockhart, along with many others, to the Glasgow botanic garden. "Like the tropical *Orchidææ*, the exotic ferns were long supposed to be very difficult of cultivation; but now, in many stoves of our country, they form a striking and a beautiful feature; and they possess this peculiar advantage, that they flourish perhaps best where other plants will scarcely live, namely, under the shade of taller plants. Thus they may be advantageously employed to fill up vacancies upon the stages, which otherwise look bare and unsightly, with a foliage the most varied and most graceful that can be imagined. They delight in a peat or heath soil; and in the Liverpool and Glasgow botanic gardens, as well as at Messrs. Loddiges', where the most numerous collections may be found, the roots are placed between two broken pieces of a garden-pot, and always kept moist: a simple way of imitating the rocky situations in which so many of them are seen in a state of nature."

No. XVII. for May, contains

2819 to 2825. — *Zygopetalon* (*zygos*, a pair, *petalon*, a petal; petals in twos) *rostratum*. A stove epiphyte (which Dr. Hooker calls a parasite, in our opinion improperly), with large, handsome, greenish-brown and white flowers, of easy culture in the stove. It was introduced from Demerara to the Liverpool botanic garden, by C. S. Parker, Esq., and flowered for the first time in October, 1827. — *Cactus alatus*. The general appearance of this species, when not in flower, is that of *Cactus speciosus*, but it is readily distinguished by the mid-ribs and nerves of the joints, and the small size of the flowers. — *Sida globiflora*; *Malvaceæ*. A stove shrub, from the Mauritius to the Glasgow botanic garden. — *Houstonia serpyllifolia*; *Rubiaceæ*. A pretty little tufted alpine, not 6 in. in height, with white flowers. From the mountains of New Hampshire in North America, by Mr. Blair, to Mr. Cunningham's nursery, Cowley Bank, Edinburgh. — *Octomeria serratifolia*; *Orchidææ*. — *Buddlea madagascariensis*; *Uticeæ*. A twiggly straggling shrub, with ovato-lanceolate leaves, and terminal compound racemes of small bright reddish orange flowers. A native of Madagascar, and a desirable inmate of our stoves. — *Dioscorea cinnamomifolia*; *Dioscorea Hexandria* Lin., *Hexandria Trigyna* Spreng., and *Dioscoreæ*. The root or yam is an ill-shapen tuber, as large as the human head; the stem is twining, branched, and hairy. The male flowers in racemes, very small, and of a yellowish green colour. "Detected in the woods about Rio de Janeiro, by William Harrison, Esq., and by him introduced to the valuable collection of his sister, Mrs. Arnold Harrison, at Aighburgh, near Liverpool. Its flowering season is November. The male plant alone is at present known. We are ignorant of the nature of the fruit, which may, perhaps, prove it to be a *Rajana*; and, indeed, in specific character, it seems to be allied to Swartz's *Rajana* (John Ray, the celebrated naturalist) *ovata*."

Edwards's Botanical Register. Continued by John Lindley, F.R.S. L.S. &c. Professor of Botany in the London University. In 8vo Numbers, monthly. 4s. coloured.

No. II. for April, contains

1138 to 1144. — *Pentstemon pulchellum*; *Didynam.* *Angiosperma*, and *Scrophular*. A handsome half-hardy perennial, from Mexico, in 1826, to Mr. Tate's nursery in Sloane Street, where it thrived exceedingly in a warm border exposed to the south. — *Diospyrus Mabola* (fig. 50.); *Polyandria Monog.*, and *Ebenaceæ*. A slightly branched shrub, or small tree, producing a hard, compact, excessively black wood of the ebony kind, and the fruit known by the name of *Mabola* in the Philippine Islands, and said to have a firm white pulp, wholesome, and of an agreeable flavour. It is one of the rarest plants in our stoves, where it is valued for the beauty of its leaves, and the fragrance of its flowers. The only two plants in Britain are at Kew and Chiswick; to the latter garden it was brought from China by Mr. John Potts, in 1822. — *Lupinus laxiflorus*; *Diadél.* *Decand.*, and *Leguminosæ*.

A small, slender, perennial species, found by Mr. Douglas in dry, open, gravelly plains, about the great rapids of the river Colombia, where it is a social plant (forming patches of considerable extent), occasionally acquiring a suffrutescent habit. The flowers appear in August, and are



blue mixed with pink; any soil, and division of the root. — *Sagittaria angustifolia*; *Alismaceæ*. A pretty stove aquatic, flowering in October. From Essequibo, by Mr. E. Davis, to Mr. Colvill's extensive establishment in the King's Road. — *Ænothëra pallida*; Octând. Monog., and *Onagrariæ*. A handsome, hardy, creeping-rooted perennial, found by Mr. Douglas on the north-west coast of America, growing among sand in all the dry country, west of the rocky mountains. "The flowers are at first white, afterwards they change to pale purple, and at night are deliciously fragrant. It flowers from June to September, flourishes better in peat than in loam, and is readily increased by its creeping roots, or by seeds." Altogether, it is a delightful little plant, and we hope it will soon find its way into every cottager's garden. A good idea of its figure may be obtained by recurring to *Gard. Mag.*, Vol. II. p. 89. fig. 54. — *Tulipa oculus solis* var. *persica*, Persian Sun's Eye Tulip; *Liliaceæ*. "We are tempted to figure this variety, not only for the sake of its great beauty and rarity, but also from its being not less remarkable for its large flowers than for its native country, and the peculiarity of the integuments of its roots." The roots of the common European tulip are densely clothed with wool beneath the outer integuments; those of the Persian variety have coarse hair, instead of wool, probably because less protection from cold is wanted for the tulip bulb in Persia than in Europe. — *Lathyrus californicus*; *Leguminosæ*. "A rambling, strong-growing, creeping-rooted, handsome perennial plant, native of the north-west coast of North America, where it was found by Mr. Douglas. It is common all over the country, at the outskirts of woods, in the sub-alpine regions of the mountains. With us it flowers during the most of the summer, thriving freely in any soil or situation, but especially in peat among other plants." This will be a valuable shrub for mixing in with groups of shrubs on lawns, or in ornamental hedges or fringes of woody plants.

No. III, for May, contains

1145 to 1151. — *Agave geminiflora* (*Gard. Mag.*, Vol. II. p. 96. fig. 30.); *Amaryllidææ*. This plant was introduced into Europe from South America in 1795, and flowered for the first time in 1815, in the garden of the Duke of Litta, at Sainate, near Milan. The gardener there found, that, if the central bud of the stem were seared with a hot iron, a brood of young plants would be produced around the base; and, accordingly, such was the method he practised in propagating it. Mr. Haworth has adopted the name of *Littæ'a* for this plant, but Mr. Lindley and Mr. Ker agree in considering it an *Agave*. — *Polýgala oppositifolia* var. *majör*. "A beautiful green-house plant, easily increased, and blossoming in abundance in the early months of the year." From the conservatory at the Grange, by Mr. Peter M'Arthur, in 1826. — *Eulophia* (*eulophos*, well crested; surface of middle lobe of lip) *ensata*; *Orchidææ Vandææ*. From Sierra Leone to the Horticultural Society, by Mr. George Don, A.L.S., in 1822. "It is a tender stove plant, extremely difficult to cultivate, being liable to rot from various causes. In growth it resembles the West Indian bletias; like them dying down to the ground periodically." — *Amaryllis intermedia*. From Brazil in 1827. — *Lupinus lépidus*. "Another fine perennial lupine, produced from the inexhaustible store of novelties discovered in North-west America by Mr. Douglas. It is a very local species, growing from Fort Vancouver to the Great Falls of Colombia, on the dry elevated banks of streams. It flowers in August and September, and is the smallest of the North American species, except *L. áridus* and *mínimus*, not exceeding 6 or 9 in. in height. It is to be propagated, we presume, by dividing the roots. No seed has yet been produced."

Genista procumbens. "A rare and pretty little hardy shrub, well adapted for covering rockwork, over which its stems trail in dense masses." Its flowers are of a bright yellow, and very fragrant. — *Cratægus cordata*. This handsome hardy tree is a native, according to Pursh, of

hedge-rows and banks of rivers, from Canada to Virginia. With us it forms a beautiful bush or small tree, flowering rather later than others of the genus, the blossoms beginning to open about the end of May, or early in June. It is much valued for the fine dark-green, glossy appearance of its leaves, and the vivid colour of its scarlet fruit, which will sometimes hang on the tree during the winter.

Botanical Cabinet. By Messrs. Loddiges. In 4to and 8vo Parts, monthly. Large paper, 5s.; small paper, and partially coloured, 2s. 6d.

Part CXXXII. for April, contains

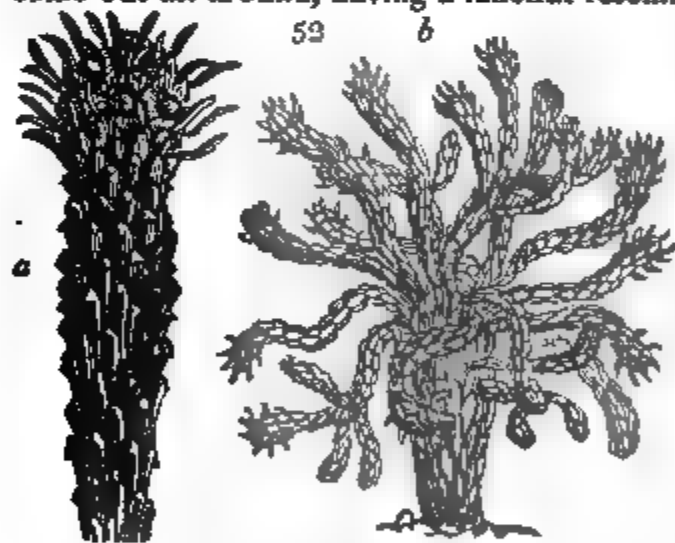
1311 to 1320. — *Mesembryanthemum incomptum* (*incomptus*, untrimmed; confusion of branches). A low shrubby plant, introduced from the Cape of Good Hope, by Mr. Burchell, in 1815. It grows vigorously, and flowers freely during the hottest weather of summer, and requires merely protection from frost in an airy green-house, with little water during winter. —

Stapelia stellaria. (fig. 51.) A native of the arid deserts north of the Cape of Good Hope, but not yet common in England, though it has been in the country since 1804. — *Bauera rubiæfolia*.

A handsome shrub, originally found in New South Wales, by Sir Joseph Banks; of the easiest culture in a green-house. — *Lophiola aurea*; *Hæmodoraceæ*. Yellow flowers and grass-like leaves. From boggy soil on pine barrens in New Jersey and Carolina, flowering in autumn, and of the easiest culture in a frame. — *Euphorbia caput Medusæ*. (fig. 52. a) "From the main stem many branches

come out all around, having a fanciful resemblance to serpents (b); whence it has derived its name. If

wounded, the branches give out abundance of milky fluid, of which, it is said, birdlime can be made. "Green-house, and the easiest culture." — *Erica versicolor*. — *Malpighia coccifera*. A neat bushy stove shrub, from the West Indies in 1773, with pink and white flowers in autumn, and of the easiest culture. Though a hot-house plant, it is, like many others, much improved by being set out of doors in a sheltered situation, during



July and August. — *Maxillaria racemosa*. A curious stove epiphyte (*epi*, upon, *phylon*, a plant; growing upon trees, and not into them like parasites), from Rio Janeiro. — *Acacia impressa*. — *Andrœda Catesbæi*. A hardy ornamental evergreen shrub, from Virginia, to Messrs. Loddiges, "by the excellent Michaux," in 1794.

Part CXXXIII. for May, contains

1321 to 1330. — *Cypripedium insigne*. (fig. 53.) A beautiful, terrestrial, orchideous plant, sent from Nepal, by Dr. Wallich, to Mr. Shepherd of the Liverpool botanic garden. "It flourishes in vegetable earth with a portion of sand, and may be increased slowly, by separating the roots." The flowers are large, green and yellow, with reddish brown spots. —

Euonymus americanus. A hardy, almost evergreen shrub, of low bushy growth, from the swamps of Carolina, and of the easiest culture. — *Potentilla splendens*. The name refers to the leaves, which are of a fine silvery lustre, and very ornamental; the flowers are small and yellow, and succeeded by numerous seeds of such easy growth, that the plant will probably soon become naturalised. — *Azalea calendulacea*, Marigold-like Azalea. Bartram, in his travels, observes, "the clusters of the blossoms cover the shrubs in such incredible profusion on the hill-sides, that, suddenly opening to the view from deep shades, I was alarmed by the apprehension of the hill being set on fire." He calls it "the most gay and brilliant flowering shrub yet known."



Erica varia. — *Habenaria ciliaris*; Orchidaceæ. "A native of North America, in meadows and drained swamps, from Canada to Carolina. It is a beautiful plant, difficult of cultivation; we have frequently imported it, but it never lives long here. It flowered in June, from roots received the preceding winter; they were potted in loam and vegetable earth, and kept in a frame, under glass." — *Scævola microcarpa*; Goodenoviæ. A greenhouse perennial, of low growth and little beauty, raised by Mr. Curtis, in 1793, from seeds brought accidentally to England in specimens of soils. — *Sempervivum tabulaforme*. — *Digitalis canariensis*. An elegant plant from the Canary Islands, long since introduced, but by no means common. — *Helonias bracteata*; Melanthaceæ.

The British Flower-Garden. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 5s.

No. LXII. for April, contains

245 to 248. — *Diāthus Fischèri*; Caryophyllæ Silenæ. From the very extensive collection of ornamental herbaceous plants of Messrs. Young of Epsom, and "certainly one of the most desirable plants for the flower-garden, the flowers being very sweet-scented, as well as beautiful." — *Diplôcoma* (*diploos* double, *kome*, a lock of hair; the seeds being furnished with a double pappus) *villôsa*; Compôsitæ Carduacæ. A herbaceous perennial, 18 in. high, with yellow flowers, and of the easiest culture in the open border, with a little covering in winter to preserve it from the severest frosts. From Mexico to the "rich and varied collection" at Bury Hill. — *Papàver alpinum* (fig. 54.); Papaveracæ. A pretty and very rare dwarf perennial, with bipinnate leaves, and white flowers, which appear great part of the year. The plant is well adapted for rockwork, where it should be protected from severe frosts, and superabundance of rain. From the extensive collection of alpine in the Chelsea botanic garden. — *Phlôx scàbra*; Polemoniæ. A most ornamental perennial, growing from 3 ft. to 4 ft. high, with fragrant lilac flowers, in loosely spreading panicles. The usual culture, with a little protection in winter.



No. LXIII. for May, contains

249 to 252. — *Orchis longicórnus*. Handsome, with long flat spurs, and velvety purple-lipped flowers. Native of the south of Europe, and growing freely in the Chelsea botanic garden. — *Rhododéndron arbóreum*. A tree in its native country about 20 ft. high, in other respects like *Rhododéndron pónticum* or *cataubiense*, but with flowers of the most brilliant scarlet. Without doubt the finest species of the genus. In the neighbourhood of London it requires a little protection in the winter, either to be placed in a green-house or conservatory, or if planted in the open border, it will need the protection of a mat, or some other covering in severe weather. In Devonshire and the more southern counties, it will succeed well in the open air all the winter, thriving best in peat soil, or in very light sandy loam, and may be increased by seeds or layers, or by inarching on the *R. pónticum*, or other strong-growing sort.

Mr. W. Smith, gardener at Combe Wood, has succeeded in raising numerous hybrids between the present species and *R. pónticum*, and others between the present and *Azalea póntica*; those will be still more valuable, as they will be quite hardy, as well as curious and beautiful; he has also raised a great quantity of seedling varieties of *Azalea índica*, and mules between it and *R. daúricum*, and also a quantity of curious hybrids between *Cercus speciósus* (*phyllanthoides Decan.*) and *C. speciósimus*, some of which are nearly of a flowering size.

We agree with Mr. D. Don in uniting *Rhodora* and *Azalea* with *Rhododéndron*, as there are no proper limits between them, and we have succeeded in "muling" the whole of them together, the produce of which will still unite them closer.

Yucca pubérula; *Tulipàceæ*. Equally hardy with the other species. — *Horminum* (*hormao*, to excite; supposed stimulant qualities.) *pyrenáicum*; *Labiátæ*. "A most beautiful perennial plant, which continues in flower a great part of the summer, thriving well in the open border of the flower-garden, but it is also a good plan to keep some plants in pots, that they may be protected in frames in winter, as those in the open ground are sometimes apt to be killed by excessive moisture; those in pots can also be turned into the borders at any time whenever they are wanted, and without injury to the plants. It is certainly a plant that ought to be in every collection, as it makes a fine show when in flower. It may be increased by dividing at the root, or by seeds. If the seeds are sown as soon as ripe, they will make flowering plants for the next summer."

Flora Australásica. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s. coloured; 2s. plain.

No. XI. for April, contains

41 to 44. — *Pomadérris* (*póma*, a lid or cover, *dérris*, a membrane; lid of the capsule) *discolor*; *Rhámneæ*. A handsome-growing, bushy, evergreen shrub, with oblong dark glossy green leaves, and yellow flowers in terminal cymes. (fig. 55.) — *Acácia lunàta* (alluding to the changes in its leaves, and also to their occasional form); *Leguminosæ Mimósææ*. An evergreen shrub, with leaves more or less falcate, sometimes lunate, and bright yellow flowers in racemes. "This beautiful species is one of the most variable plants of the genus, in respect to leaves, and the size of the flowers." — *Hákes lineària*. A beautiful bushy evergreen shrub, with white flowers in fascicles, slightly scented like hawthorn, and singular in appearance. It is of the easiest culture, and well deserving a place by the side of a collection of



the genus *Grevillea*. — *Sphenótoma* (*sphēnō*, to connect or bind, *tōmos*, a slice or section) *gracilis*; *Epacridæ*. A small, branching, evergreen, heath-like shrub, with recurved leaves and white flowers; of easy culture in sandy peat soil.

No. XII. for May, contains

45 to 48. — *Hakea ferruginea*. A hardy, stout, evergreen shrub, that, very likely, will be found as hardy as the common camellia. It was raised at Bury Hill, and is a very free and abundant bloomer, in light turfy loam, peat, and sand, with the pots well drained with sherds at the bottom, that the roots may not become sodden with too much moisture. "Ripened cuttings, planted under hand-glasses, in sand, in a cool situation, will strike root freely." — *Lechenaúlia oblata*. A pretty little, suffrutescent, heath-like bush, with bright orange flowers, raised in the Bury Hill garden. "It is a very desirable plant for the green-house, being nearly always in flower, and of free growth, thriving well in a mixture of light turfy loam, peat, and sand; and young cuttings root freely, planted under bell-glasses or hand-glasses." — *Leucopogon* (*leukos*, white, *pōgōn*, a beard; white limb of corolla) *lanceolatus*. A small, branching, upright, evergreen shrub, from the neighbourhood of Port Jackson. "It well deserves a place in the green-house, where it makes a fine appearance in February and March, when covered with its elegant spikes of sweet-scented flowers. It is a hardy green-house shrub, only requiring protection from frost, and thriving well in a mixture of light turfy loam, peat, and sand, with the pots well drained at the bottom, that the wet may pass off readily. Young cuttings, planted in pots of sand, under bell-glasses, strike root freely; as soon as rooted, they require to be potted off singly in small pots, and to be protected under frames or a hand-glass, for a few days, until they have begun to root afresh. They then must be hardened to the air by degrees." — *Boronia alata*; *Rutaceæ*. A handsome, strong-growing, upright shrub or small tree, with pinnate leaves, and red flowers tipped with green. Discovered by A. Menzies, Esq. F.L.S. &c., but raised for the first time in this country in the Clapton nursery, from seeds sent home by Mr. Baxter. "Several species of this handsome genus have at last been introduced into this country, where the *B. pinnata* was for a long time the only solitary species; there are yet many other species to be introduced that are already known, and, doubtless, numerous others that have not yet been discovered. The present species thrives well in a mixture of one third light sandy loam, and two thirds peat, and requires the protection of a green-house or conservatory in winter; and young cuttings planted in sand, under bell-glasses, will strike root."

Geraniaceæ. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s.

No. C. for April, contains

397 to 400. — *Pelargonium malacophyllum* (soft-leaved); *Hoarea coccinea*; *Pelargonium anisodonton* (*anisos*, unequal, *odous*, a tooth; leaves), Unequal-toothed Stork's Bill; and *P. translucens*, Transparent Stork's Bill.

With this number, which completes Vol. IV., is given an alphabetical English index to that volume, and a general systematical index to Vols. I, II, III, and IV.; also a general alphabetical index to Vols. I, II, III, and IV.

Cistineæ. By Robert Sweet, F.L.S. &c. In 8vo Numbers, every alternate Month. 3s.

No. XVIII. for May, contains

Helianthemum grandiflorum. Suffrutescent, much branched, and pale yellow flowers. "A pretty plant for the adorning of rockwork, or for a small pot." — *Cistus Cupaniæus* (F. Cupani, a Franciscan monk of Sicily). A branchy shrub, with large rugose leaves and white flowers. A native of Sicily, of easy culture in the open garden, but requiring protection from

142 *Botanic Garden.—Florist's Guide.—Medical Botany.*

frost.—*Heliánthemum salicifolium*. An annual, with small yellow flowers; from Spain and other countries of the south of Europe. — *Heliánthemum hyssopifolium* var. *múltiplex*. Copper-coloured flowers, very hairy leaves, and altogether one of the finest species of the genus. “We scarcely know any tribe of plants that make so gay a show when in bloom; and, though the flowers continue but a short time, still the succession that follows makes their fugacious duration of little or no consequence.”

The Botanic Garden. By B. Maund. In small 4to Numbers, monthly.
Large paper, 1s. 6d.; small paper, 1s.

No. XL. for April, contains

157 to 160. — *Potentilla formosa*. (*P. nepalensis* Hooker. Mr. Maund justly observes, “no great merit can be claimed for either specific name; for, as others are brought from Nepal, and of character equally beautiful, the terms have no peculiar application to this species alone;” he therefore very properly prefers *formosa*, because it was first given.) A very handsome hardy perennial, of easy culture. — *Phyteuma campanuloides*. Worthy a place in every collection. — *Pancrátium* (*pan*, all, *kratos*, power; supposed medicinal qualities) *illyricum*. Generally known in the nurseries as *P. maritimum*. The bulbs should not be transplanted oftener than once in three or four years. — *Nicotiana* (John Nicot, ambassador of Francis II. of France, in 1564, sent the seeds to France) *tabacum* (from its Indian name *tubacca*). King James, in 1605, “warns his subjects, in an earnest manner, not to sin against God, and harm their own persons and goods,” by persevering in smoking. Mr. Maund is also unfriendly to “smoking and snuffing;” but every body must indulge in some sort of dissipation, and the universality of the use of this herb, shows there is something in it congenial to man in his present state of civilisation.

No. XLI. for May, contains

Liàtris scariosa; *Corymbiferae*. Valuable as an autumn-flowering plant, with purple flowers, the yellow colour generally prevailing at this season. “It is stated by Pursh, that in some parts of North America, the *L. scariosa* and *L. squarrosa* are called the rattlesnake’s master, on account of their efficacy in the cure of the bite of that reptile.”

Cárthamus (*quortom*, to paint, its Arabic name) *tinctorius* (*tinctura*, a dye or colour; flowers used to dye yellow). “This flower possesses two distinct qualities of colour. The one yellow, which readily yields to water; the other red, which is insoluble in water and oils, but is soluble in alcohol and æther. The alkalies dissolve it, but injure its colour, which is again restored by acids.”

Ænothèra Frasèri. Showy, perfectly hardy, and of easy increase and culture. — *Campánula persicifolia*.

The Florist's Guide and Cultivator's Directory, &c. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s. coloured; 2s. plain.

Nos. X. and XI. for April and May, contain

37 to 40. — Beroth *Ranunculus*, Princess Victoria Tulip, Majesteuse Tulip, and Knight’s Lady Acland Pink.

41 to 44. — Davey’s Lady Penryn Pink, Strong’s King Tulip, Vereatre *Ranunculus*, Davey’s Bacchus Carnation. All very choice flowers.

Medical Botany, &c. By John Stevenson, M.D., and James Morss Churchill, Esq., Surgeon. In 8vo Numbers, monthly. 3s. 6d.

No. XVI. for April, contains

61 to 64. — *Linum usitatissimum* (most used), Common Flax. The seed yields a mucilage to boiling water, which is inodorous, and has but little taste. By expression, the well known oil is obtained which is used in painting, varnishing, and in making printer’s ink. Linseed oil boils at 600°,

and does not freeze but with a cold below 0 of Fahrenheit. It is what is called a drying oil ; that is, after being exposed to the open air, and absorbing oxygen, it remains transparent, instead of becoming opaque, like what are called fat oils. Linseed, in common with other vegetable mucilages, affords but little nourishment ; and, when used as a principal article of diet, it relaxes the organs of digestion, and produces a viscid slimy mucus, and a morbid acid in the primæ viæ. A table-spoonful of the oil is an excellent corrector of habitual costiveness, and one of the most useful poultices is made from linseed-meal.

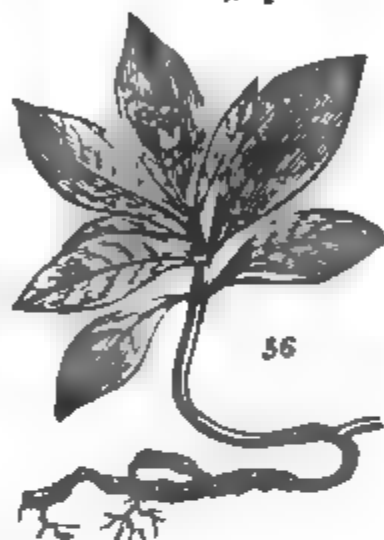
Linum catharticum. An indigenous annual, which, as its specific name implies, may be used as a purgative.

Cephaelis (kephale, a head ; flowers) ipecacuanha (*ipe*, an aboriginal word in Peru for root, *cacua*, an aboriginal distinction for that root), *Ipecacuan*. (fig. 56.) A perennial found in most woods

near Rio Janeiro and other provinces of Brazil, and one of the most valuable emetics. It is given in a great variety of forms ; one of the most commodious is emetine, or concentrated essence. — *Oxalis Acetosella.* An indigenous

perennial, the leaves of which are among the most grateful of the vegetable acids. Beaten up with fine sugar, they make a refreshing and wholesome conserve. — *Bryonia dioica* (*dis*, two, *oikos*, a habitation ; male and female flowers on different plants). An indigenous perennial, with a large fleshy root, often as thick as a

man's thigh, and annual climbing stems with cucumber-like leaves and greenish flowers. The root abounds with an acrid principle, which, however, can be so dissipated, by repeated washings in water, as to leave a fecula similar to what is yielded by the potato ; and which, in the scarcity which followed the French Revolution, was resorted to as food, and found to be very nutritious. Before being washed, if given in over-doses, the root is an acrid poison. Medicinally, it was formerly much extolled as a cathartic and diuretic, but it is seldom employed at present.



No. XVII. for May, contains

Daphne Mezereum, *Thymelæa* ; which, independently of being one of our earliest-flowering and most odoriferous native shrubs, is also " a stimulating diaphoretic, useful in chronic rheumatism." — *Canella alba*, *Meliaceæ*, the bark of which is sometimes used as cinnamon, and which, combined with aloes, forms the popular remedy, *hiera picra*. — *Spartium scoparium*, the tops of which have long been celebrated for their cathartic and diuretic powers. — *Æsculus Hippocastanum*, the fruit of which consists almost entirely of fecula, from which has lately been obtained a new vegetable principle called *esculine*, which is said to possess alkaline properties, and to act as a febrifuge.

Flora Londinensis. Nos. XXXV. and XXXVI. of the New Series.

These numbers, containing twelve rare and highly interesting British plants, complete the new edition of this splendid work, which contains upwards of 650 accurate delineations of indigenous plants.

The Pomological Magazine. In 8vo Numbers, monthly. 5s. coloured ; 3s. 6d. plain.

No. VI. for April, contains

21. *The Cambridge Botanic Garden Grape.* A fine variety, long known as an old tree in the botanic garden of Cambridge, ripening on or before the latter end of September. The editors say, " we are aware it may be asserted

that it is not distinct from the Black Prince; but when or where was that kind known to submit to an English climate as this does?" It is well known that grapes are remarkably subject to be altered by locality, and that there are scarcely any two of the old vineyards of France which appear to be planted with the same grape. If varieties of fruits, from different parts of the country, are to be figured in the *Pomological Magazine*, we can see an end to its utility, but no end to its publication. We think we could show that, to effect the purpose it proposes (and we say this without reference to our own opinion of the fitness of its plan to attain that purpose), no fruit whatever ought to be figured but from the Chiswick garden. The comparative differences and resemblances of fruits will, in our opinion, never be properly made, unless the fruit be grown in the same garden, and in every respect under the same circumstances.

22. *The Early Green hairy Gooseberry*, the Green Gascoigne of the Scotch gardens. "No good garden is without a selection of small-fruited gooseberries, which, in general, are as superior to the large ones in richness of flavour, as they are inferior in magnitude."

23. *The Grosse Mignonne Peach*. Above ten synonyms are given; among others, Grimwood's Royal George. "A beautiful, melting, delicious variety, ripening in the beginning of September. One of the finest peaches in cultivation."

24. *The Red Antwerp Raspberry*. "This was the first improvement in size on the common native Red Raspberry." The canes are strong, and their bark nearly smooth.

The interminable nature of the *Pomological Magazine* having been more than once mentioned in our pages as an objection, we would suggest to the publisher to propose to limit it, or, at least, to limit the first series, to a given number of hardy fruits, and to let this number be the most select of their kind. For instance, 50 pears, 40 apples, 20 plums, 10 cherries, 15 peaches, 10 nectarines, 5 apricots, 10 grapes, 3 raspberries, 10 strawberries, and 10 gooseberries, or some such number. We would have no pines, quinces, medlars, services, currants, and other fruits of which there are few varieties, or those of very fleeting duration; indeed, we should prefer dispensing with even raspberries, strawberries, and gooseberries. After the work was completed, it could be arranged in fasciculi of each kind of fruit; and at that time, if desirable, a second series might be commenced on a similar principle of selection; and, when that was completed; a third, and so on. After two or three series were completed, there might be a selected series made from them; and thus the work would still be interminable, but at the same time terminable to those who chose to leave off at any fixed series. The work, so planned, would be much more valuable than it is at present; and a declaration, by the publisher, of such a plan being to be pursued, would give the purchaser confidence both as to the cost of the work and its utility. We should, however, greatly prefer a tabular lithographic publication, such as we have formerly described. (Vol. III. p. 325.)

No. VII for May, contains

25. *The Turkey Apricot*. Excellent, little inferior to the Moor Park, and distinguished from it by its figure being round and not compressed. About London it ripens on a south wall in the middle of August. "Duchamel says that it is sometimes called the Abricot pêche; but we believe all the trees in this country known by that name are the Moor Park." Two trees of the Abricot pêche were in the garden of Chalfont House in 1808. — J. M.

26. *The Bellegarde Peach*. "One of the most delicious of the varieties that ripen in the beginning of September."

27. *The Thibbard's Pearmain Apple*. An "invaluable table fruit," not uncommon in Norfolk and Suffolk; a great bearer as an open standard, ripening about the beginning or middle of November, and keeping till

March or April. This is the Winter Pearmain of the middle counties of England, and of old orchardists. — *J. M.*

28. *The Blenheim Pippin.* "Among the largest kind of table apples in the middle of November, and will occasionally keep till the following March. A great bearer as a dwarf tree, grafted on an English Paradise or Doucin stock."

The following paragraph has been sent us by an intelligent nurseryman :

Inferior and common Fruits should not be figured.—A reader of the *Pomological Magazine* avows his disappointment at meeting, in that high-priced work, (to the exclusion of others more rare and valuable,) figures of such inferior fruits as strawberries, raspberries, and gooseberries ! which, being so well known, and so speedily and easily corrected if wrong, may be had true from every nursery ; such, he thinks, may be as effectually pointed out by name. The high merit of the work, in other respects, enhances the regret, that so much ability should be so expended. (*April.*)

The following advertisement appears on the cover of No. VII. As we had written the remarks at the end of No. VI., when reviewing that number, and as the advertisement is much too indefinite to meet our views, we have allowed the remarks to remain, but also give the advertisement, and leave both to work their way with our readers.

"*Advertisement.* — The plan of the *Pomological Magazine* appearing, notwithstanding the notice which has been hitherto affixed to it, to have been in some measure misunderstood, the Editors beg leave to make the following additional statement : — It has been represented that no limits can be reasonably assigned to the work, upon the ground that, in the first place, the supply of newly raised fruits is inexhaustible : and, secondly, that those already known by name amount to many thousands. With regard to the first of these arguments, [the Editors take the liberty of remarking, that, so far is it from their intention to publish new fruits, merely because they are new, that they have always intended to pass them by, unless their merits are of a high order ; and it is to be presumed, that no one is desirous of remaining in ignorance of the existence and properties of a valuable fruit, merely because of its novelty : if this were the general feeling, all hopes of improving our dessert must be abandoned. As to the propriety of estimating the extent of the work from the number of varieties already known, it is only necessary to remark, that, of the thousands of names of fruit now in existence, fully two thirds are a repetition of the remainder — a point which it is one of the objects of the *Pomological Magazine* to determine ; and of the supposed remaining third, a very large proportion is worthless, and certainly not likely to find a place, except incidentally by name, in this work. In support of this representation, the Editors beg permission to refer to the six numbers already published : in these only twenty-four distinct varieties have been figured, but they represent seventy-nine synonymous names, besides fifteen other varieties which are cited in the letter-press as not materially distinct : so that the whole number of names really illustrated in the first six numbers is ninety-four. From this it is apparent, that the *Pomological Magazine* is so far from being likely to extend to an indefinite number of volumes, that its limits will, in all probability, be more circumscribed than those of any periodical publication of the same description."

Fleming's British Farmer's Magazine, exclusively devoted to Agriculture and Rural Affairs. In 8vo Numbers, quarterly. 4s.

No. VII. for May, contains

1. *Original Communications.* — On the past and present State of the British Farmer. A most interesting paper, by a particular friend and correspondent of ours. — On the Qualities of Moss Earth, by W. Aiton, Esq. The chemical qualities have not yet been duly investigated. The qualities

obvious to the cultivator are, inflammability, antisepticity, insolubility, acidity, and tenacity. — On Mangold Wurtzel (spelt, as usual, *mangel*), which may be sown any time in the first fortnight in May, stripped of its outside leaves in August and September, and the roots stored in pies or banks, like potatoes, in November, and kept there in perfection till the end of May. Both leaves and roots are very nourishing. The roots ought not to be used before Christmas, and cattle ought to be habituated to them by degrees. “All live stock, except horses, are extremely fond of them, and will thrive upon them; and their fattening qualities for neat cattle are equal to those of any other root grown in this country.” Boiled, they are readily eaten by dogs. — Colours of improved Short Horns. — On Smut; three papers. — On Cattle, by the Rev. Henry Berry. — Friendly Societies. — Depression of Trade, &c. — Agriculture of Switzerland; being an interesting extract from the *Foreign Review and Continental Miscellany*, referred to in our pages. (p. 48.) — On Smut; from the *Transactions* of the Philadelphia Society for promoting Agriculture. — Foreign Corn; being extracts from the *Report* of the Lords’ Committee.

2. *Reviews*. — Meadows on the Cultivation of Mangold Wurtzel. — Darville on training Racehorses. — 3. *Agricultural Intelligence*. — 4. *Sporting Intelligence*.

The Quarterly Journal of Agriculture, and the Prize Essays and Transactions of the Highland Society of Scotland. Edinburgh. In 8vo Numbers, quarterly. 2 plates, and various wood-cuts. 5s. 6d.

This is a very superior publication, but we received it too late to enter into details.

The Farrier and Naturalist. London. In 8vo Numbers, monthly. 1s.

The Farmer’s Register, and Monthly Magazine of Foreign and Domestic Events. Glasgow. In 8vo Numbers, monthly. 1s.

Nos. XIII. and XIV. and also XV. for March, and XVI. for April, have not reached us.

Meadows, Arthur, Esq.: Hints to the Farmers of the Baronies of Forth and Bargo on the Cultivation of Mangold Wurtzel, Beans, Carrots, and Parsneps. Wexford. 8vo.

Darville, R., Vet. Surg. 7th Hussars: A Treatise on the Cure, Treatment, and Training of the English Racehorse, in a Series of rough Notes. London. 8vo.

Soane, John, Esq., F.R.S. R.A. F.S.A. Professor of Architecture in the Royal Academy, Architect to the Bank of England, &c.: Designs for Public and Private Buildings. London. Folio. 3l. 3s. Half-bound in Morocco.

Arcana of Science and Art; or, One Thousand popular Inventions and Improvements, abridged from the Transactions of Public Societies, and from the Scientific Journals, British and Foreign, of the past Year. London. 8vo. Numerous engravings. 4s. 6d.

This work is a selection from thirty-five public journals of the past year, made with a view to the popularity of the book “in the engine-room of the mechanic, the laboratory of the chemical student, the museum of the naturalist, the library of the gardener, the workshop of the manufacturer, the study of the artist, and at the fire-sides of all classes.” It is printed in a small type, and contains an immense body of interesting information for very little money. We should wish to see it in every garden library, and we hope its editor will publish a similar volume annually. There are few books better adapted for being given as presents to young men, whatever may be their trade or profession.

Sinclair, The Right Hon. Sir *John*, Bart. &c. &c.: On the Culture and Use of Potatoes. Edin. Pamph. 8vo. pp. 100.

This is an abstract of nearly all that is known respecting the use and culture of potatoes. Potatoes were brought to England about 1586, but their culture spread very slowly for a long period afterwards. They were first planted in the open fields in Scotland so late as 1728. There are a great variety of species, some of which yield about twice as much as others on the same ground, and with the same culture. The produce in England varies from 136 up to 830 bushels per acre, the average being about 360 bushels, or 12 tons. Including Scotland, however, Sir John estimates the average at 216 bushels, or 7 tons. Where families live entirely on potatoes, it is calculated that a man, his wife, and four children, will consume about a ton each, or 6 tons altogether; but where milk is used, according to Dr. Skene Keith's estimate, about half the quantity will suffice; so that among a population living in the Irish cottier mode, an acre would supply solid food for 14 persons. A pound of oatmeal is reckoned to afford as much nourishment as 6 lbs., and a pound of wheaten bread as much as 5 lbs. of potatoes. The potato, as analysed by Dr. Pearson, consists of 70 parts water, and 30 of meal. The meal is composed of starch, or fecula, 16; leafy, or fibrous matter, $8\frac{1}{2}$; extract, or soluble mucilage, $5\frac{1}{2}$; total, 30. (*Scotsman*, April 19.)

FRANCE.

Prevost, M., fils, Nurseryman at Rouen: Essai sur l'Education et la Culture des Arbres fruitiers pyramidaux, vulgairement appelés Quenouilles, précédé de Considérations sur les Causes qui se sont opposées et s'opposent encore aux Succès de cette Culture dans la plupart des Jardins. Rouen. 8vo, pp. 58.

Soulange-Bodin, M. le Chevalier, Nurseryman at Fromont, and General Secretary of the Horticultural Society of Paris: De la Culture des Plantes dites de Terre de Bruyère et de leur Introduction en grand dans les Jardins Paysagers. Paris. Pamph. 8vo.

After pointing out the beauties of American trees and shrubs generally, the author gives the culture of some of the principal species, and concludes with a diagram and list for planting a bed or border 150 ft. long, and 18 ft. wide. The tract will be useful in France, where very little is known of American plants or their culture.

Martin, *Alexandre*: Manuel de l'Amateur de Melons, ou l'Art de reconnaître et d'acheter de bons Melons; précédé d'une Histoire de ce Fruit, avec un Traité sur la Culture et une Nomenclature de ses diverses Espèces et Variétés. Paris. 1 vol. 18mo, pp. 156. 4 pls. 2 frs. 50 c.

This is a comprehensive little treatise, amusing as well as instructive; it abounds with singular anecdotes and reflections, connected with the subjects of gastronomy and horticulture. A melon is shown to have been the cause of the loss of the battle of Arques; another, of the reduction of Ulm by the French; two other melons, given to Bernis and Madame de Pompadour, were the original cause of the former being elevated to the rank of cardinal. The art of selecting and purchasing melons in the public market is laid down, and a catalogue given of all the books which treat of the melon.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

PLANTING Steep Declivities.—The Society of “Encouragement” of Paris have offered two prizes, to be awarded in the year 1830, for those who shall have planted the greatest extent of surface, having not less than 45° of inclination. The trees must have been fixed, either by sowing or planting, at least five years. The idea of giving such a prize is said to have originated from a work by M. Dugied, entitled *Projet de boisement des Basses-Alpes*. The first prize is 3000, and the second 500 francs. (*Bul. Un.*)

Dung without Straw.—A writer in the *Journal des Connaissances usuelles* says he has adopted a system of culture, by which the whole of the straw produced is eaten by cattle, and no other litter is used but dry sand. The same thing, we believe, has been practised in some parts of Norfolk.

Magnolia Soulangeana.—In consequence of our having expressed an opinion (Vol. III. p. 445.) that this variety would not be permanent, M. Soulange-Bodin has sent us a plant with a flower bud that we may prove it. We have planted it, and it has produced a superb purple and white flower. We shall farther report on it after a year or two; in the mean time we thank M. Soulange-Bodin for having used so pleasant an argument to convince us of our error in supposing it fugacious.

Sugar from the Beet Root.—An establishment is now forming, in the neighbourhood of Paris, for the manufacture of this sugar on a very extensive scale. A British gentleman is said to have offered a house called the Chateau d’Ormes, and an immense territory for the culture of the beet. More than sixty establishments are, or soon will be, in activity in all parts of France for this manufacture; and we believe, from calculations recently made, that the sugar from the beet root, by means of the ameliorations lately introduced in the processes of baking and crystallisation by various manufacturers, particularly by M. Crespel d’Arras, may before long enter into competition even with the sugar of the Indies. (*Jour. de la Belgique*, Fev.)

GERMANY.

Introduction of Botanic Names into general Language.—The Prince Ypsilanti died at Vienna on the 1st of February last. His remains were removed to the Greek chapel, dressed in the Polish costume, with the Russian orders upon his breast, and a garland of roses and athanasia. (*Gazette de France*, Feb. 13.)—The *Athanasia annua* is one of the everlastings from Barbary, and has been a common garden annual in England for upwards of half a century, but we have never before seen its systematic name introduced into a newspaper paragraph.

Vienna, March 3.—The imperial gardens here have undergone great alterations since M. Bredemayer was made director in the room of M.

Boos, who has been rendered incapable of service by a fit of apoplexy. We had in May, last year, for the first time in Vienna, a prize exhibition of plants. The prizes given were rare exotics. The principal prize was a *Caméllia*, given by the Archduke Antony, for *Diplothémium* (*diploos* double, *thēma* a sheath; its double spathe) littorale; the second, *Astrapæa Wallichii*, for *Erica tubiflora coccinea*; the third, *Pæonia Moultan*, for *Prímula longiflora*, the rarest cultivated plant of Austria; the fourth, another *Pæonia Moultan*, for *Campýlia carinata*; and the fifth, a *Caméllia*, for *Azàlea pónica*. The prizes were given to the masters, and not to the gardeners, which has very much disheartened the latter. The emperor gave especial orders that no plants from the imperial gardens should be sent for competition; doubtless because it would be no great wonder if an emperor had more rare plants than any of his subjects. The exhibition was held in the garden of Prince Schwarzenberg; the judges were, Professor Jacquin, and Drs. Bredermayer and Schott.

I shall now give a short report of our vegetable markets of Vienna, which are at this season very miserably supplied. Carrots, potatoes, savoys, horseradish (sometimes from 1 to 2½ in. in diameter, and from 20 to 30 in. in length), very dear and half-rotten cauliflowers, and mushrooms at 2 groschens (about a penny) each, are all that they contain at present, but you shall very soon hear of the supply from our hot-beds.—*Charles Rauch. Laxenburg, March 3. 1828.*

RUSSIA.

St. Petersburg, February 1.—In the southern parts of our empire gardening has made a very poor appearance this winter. In Odessa there was 30° Reaum. of cold (37° below 0 Fahr.), in Astrachan there was 24° Reaum. (22° below 0 Fahr.), in Sarepta they had 32° (40° below 0 Fahr.), and in Nikita, where seldom any frost occurs, 12° (5° below 0 Fahr.). In Nikita is the great imperial nursery for all kinds of fruit and forest trees. The orange, sweet bay, olives, and pistachios are there, as in Italy, the ornaments of nearly all the gardens. How will these plants look next spring, after having suffered a frost of 12° Reaum. (5° below 0 Fahr.), for several days, when the sun with its usual vigour is darting its rays upon each tree and shrub? In St. Petersburg we had only 28° Reaum. (31° below 0 Fahr.), and only for a few days, and our average of daily frost is between 10° and 18° (9° above and 9° below 0 Fahr.). In Moscow, although not a great distance from St. Petersburg, but a little more to the east, they had 32° Reaum. (40° below 0 Fahr.). In the imperial botanic garden here we lost, during the months of December and January, many of our young seedling plants; as the weather was all that time very severe, and the sun did not appear for six weeks, during which period the glass was covered with ice for 1½ in. thick. I am proceeding with the description of our garden for the *Gardener's Magazine*.—*J. Faldermann.*

JAMAICA.

Jamaica Society for the Encouragement of Agriculture and other Arts and Sciences.—Sir, I send you, in detail, the proceedings of what was formerly called the Horticultural Society of Jamaica, but which has now assumed the above title; beginning with December, 1825. In making this abstract, I have been particularly careful to preserve the names of the slaves who have gained prizes, and also of the estates to which they belong, as I cannot doubt but that the slaves themselves must be excellent persons, and the management of the estates to which they are attached liberal and kind. I am satisfied that nothing can contribute so much to the prosperity of the colonies as the cultivation of science, and more particularly of botanical science; and I therefore hope that this article may be acceptable to you.

In *December*, 1825, Dr. Bancroft, the president, delivered some remarks on objects worthy of cultivation in the island. Plants of the natural order of Scitamineæ, supposed to be a new variety of the *Canna indica*, and bearing tubers in profusion, were presented; and Mr. Macfaden, the island botanist, read a paper on the introduction of exotic plants into tropical climates. — In *July*, seeds of Sicilian barilla were received from Mr. Bright.

In *September*, 1826, Dr. Joachin Garcia Jove, a South American gentleman, presented seeds of a superior species of white beet, and the seeds were distributed.

In *April*, 1827, a rain-gauge and collection of minerals were presented, and the room of the Society was granted to Mr. Macfaden, for delivering his botanical lectures. [Vol. II. p. 98.] — In *May*, Dr. Bancroft's paper on *Ostracion quinquecórnu*, and Dr. Miller's meteorological paper, were read. — In *June*, thanks for seeds and books were voted to the Horticultural Society of London, to Captain Alexander of the 84th regiment, and to Dr. Bancroft. — In *June*, 1827, Mr. Ackman presented the natural history MSS. of the late Dr. Robinson. They consist of six MS. volumes, and three large volumes and one small volume of drawings of the natural history of Jamaica, made by himself, assisted by Edward and Robert Long, Esqrs., and Mr. Dupont, an artist. Mr. Long writes under Dr. Robinson's portrait, "I lament the want of a princely estate, that I might present these objects to the world." — In *July*, *L'Histoire Naturelle* of Buffon was received from Mrs. Forsyth. — In *September*, a specimen of indigo made in Jamaica was presented by Mr. Reid; and, in *October*, thanks were returned to Mr. De la Breche for his *Geology of Jamaica*. It seems about this time the Society attracted the attention of the philosophers of more remote countries, for Dr. Buckland writes to request it will examine certain caverns in the Jamaica limestone, for the purpose of ascertaining whether any antediluvian bones were contained in them. Professor Martius of Munich requests specimens of the flowers, fruits, and leaves of the palms of Jamaica. Dr. Fischer, director of the imperial garden at Petersburg, requests specimens, in pieces of 6 in. long, of all trees growing to full size in Jamaica, which do not offer in the course of trade, as an addition to a collection of woods already formed. — In *November*, Mr. Ackman presented Say's *Entomology*, and Dr. de Cordova presented a collection of preserved insects. Mr. Nethersole presented specimens of leather tanned in the island from native materials and by native workmen; and Dr. Bancroft read a paper on a species of *Cassia* growing wild near Port Royal, possessing all the medical qualities of *Cassia senna*, with some other advantages, which would probably encourage attempts to cultivate it in the island. — In *December*, the Society advertised some young olive plants for distribution, just received, and voted thanks to Mr. R. Bright for them. They then elected their officers for the ensuing year, whose names, as it is most desirable that scientific men resident in the colonies should be made known with distinction in the mother country, I here subjoin.

President, G. N. Bancroft, M.D.

Vice-Presidents, G. Atkinson, Hon. John Mais.

Treasurer, R. Smith.

Secretary, J. Miller, M.D.

Foreign Secretary, A. Bravo.

Members of Council reelected. Dr. J. Weir, Dr. S. West, Dr. C. Mackglashan, jun., Dr. J. Ferguson, Thomas Higson, C. S. Cockburn, J. Wills, Rev. J. Maun, Rev. A. Campbell, John Blake, Rev. S. Johnson, Dr. R. Chamberlaine.

New Members of Council. J. Simpson, Hon. John Lunar, James Macfaden, J. Forsyth, jun., W. S. Stevenson, Dr. J. H. de Cordova, Dr. J. Magrath, James Cockburn, Rev. J. B. Turner, Dr. D. Bain, Dr. J. Paul.

The following are more minute details : —

In *December*, 1825, the Society proposed premiums for the best specimens of fruits, flowers, white yams, cauliflowers, asparagus, and any other approved articles; the specimens to be the property of the person raising them; and if the person sending them were a slave, they were to be accompanied by a certificate from his master. — In *August*, 1826, prizes were adjudged for a new melon from Cephalonia; for Botany Bay plants, the first which have flowered in the island; for beet roots, weighing from 9 to 11 lbs.; for potatoes; for arracacha; for tobacco grown in Jamaica, and segars made of it; and for sorrel wine and ginger wine. A general invitation for sending in fruits, vegetables, and flowers, for prizes, was then issued, as well as for wax and honey. — In *December*, premiums were adjudged for arracacha, for garden eggs [*Solanum Melongena?*] produced from a graft on the Susumber [?], one measuring 24 in. by 21½ in., and weighing 5 lbs.; also for a new squash, called Commodore Porter, measuring 27 in. by 23½ in.; for bleached wax and honey, for Jerusalem artichokes, and unbleached wax; and to W. Harris, a slave on Clydesdale plantation, for potatoes.

In *January*, 1827, a premium was given for specimens of various oils; for cabbages and turnips, to William Springfield, a slave on Radnor estate; and for cabbages and potatoes, to Rankin Mac Clarty, a slave on Clydesdale estate. — In *April*, 1827, premiums were awarded for yams, celery, hallelujahs [? Vol. II. p. 97.], strawberries, flowers, and wax. — In *August*, 1827, Thomas Kelly, a slave on Radnor estate, received a prize for oil from Pindars [?], also for carrots; William Hamott, a slave on Clydesdale estate, for potatoes; and Prince Mac Clarty, a slave on the same estate, for potatoes. — In *November*, 1827, prizes were given for quinces, the first exhibited to the Society; for flowers, yams, mangold wurtzel, and Jerusalem artichokes; for arracacha, to Edward, a slave on Chester Vale; for turnips, to Thomas Kelly, a slave on Radnor estate; for potatoes, to Sarah Rattray, a slave on Clydesdale estate; for potatoes, to Alexander Mac Clarty, on the same estate; for potatoes, to Ned and Balcanes, slaves on Chester Vale; for potatoes, to Rodney, a slave on Radnor estate; for cabbages, to John Mac Clarty, a slave on Chester Vale estate; for sweet potatoes, to Elizabeth Eves, a slave on Carlisle estate.

In *January*, 1828, a premium was given for introducing the *Mikania Guàco*; for a liquid preparation of pepper; for cucumbers; for mats made of thatch, to Louisa Mac Cauley, a slave on Duplin estate; and to Thomas Kelly, a slave on Radnor estate, for vegetables and honey. — *Y. B. April 18.*

We are extremely obliged for the above communication, which we have inserted at greater length than we are in the habit of inserting the transactions of British societies, because we think by so doing more good may be done. We perfectly agree with the writer, that nothing is better calculated to ameliorate and humanise the slave or labouring population of Jamaica, or any other country, than the comforts of gardening, and a taste for the culture and knowledge of plants. — *Cond.*

Mulberry, Olive, &c. — “*Jamaica*, 28th *January*, 1828. Sir, The mulberry thrives uncommonly well in the very warmest situations, and though it has never, to my knowledge, flowered, attains considerable size. It is now general over the country, and it is only to be regretted that we have not yet succeeded in bringing the silkworm into the island. Besides the mulberry, there is a tree, *Ziziphus Jujuba*, the leaves of which are employed in feeding the insect in the East. We have plants of it in the Bath garden [?]; so that, independently of the mulberry, we could be at no loss for food for the worms.

“As for the olive trees, none of the seed grew. I obtained two plants, however, from one of the cuttings (the only one which reached me) you were so good as to send. They are planted in the garden at Bath, and promise very well. There cannot be a doubt, indeed, that the olive may

be cultivated with great advantage in Jamaica. I saw one at Kingston lately, seven years old, nearly 20 ft. in height.

“ You often mentioned your wish that plants might be introduced into the country which might yield oil. I confess what is most wanting is a spirit of industry among our free population, since there is no want of plants to yield sufficient oil. [See Dr. Hamilton’s paper, Vol. II. p. 157.] The whole of Plantain River course is covered with plants of the castor oil nut (*Rícinus communis*), yet few take the trouble of gathering them. The *Elæis guineénsis* is common, and yet I only once saw the oil obtained from it.”

I hope the foregoing extract of a letter from Jamaica may find a place in the next Gardener’s Magazine. I have almost persuaded myself that the mulberry tree may be most advantageously cultivated in the West India Islands, not only for its leaves but for its timber, which I have understood to be very solid and durable. At present the trees are not very numerous, and it might much contribute to their effectual establishment, if an easy mode of propagating from those which are already there (some of which are more than seven years old) were pointed out. Perhaps the best method would be to cut down the trees, for the purpose of laying the young shoots which break from the ground. [We should think it would, and every part of the tree cut off, young and old, would grow in the form of cuttings or truncheons.] If you would have the goodness to suggest the best plan and the practical details, I think you might do a service to our islanders, who are, unfortunately, but bad gardeners. Allow me also to ask, whether the oil of the castor plant is not perfectly good for lighting lamps, and making oil gas? and whether it might not be sold in almost any quantity for those purposes, and probably others connected with the arts, if it could be tendered at reasonable price?

The olive will increase very easily by small cuttings. We got a number of large stakes of the olive from Spain a few years since. They resembled hedge stakes. The lower ends were wrapped up in canvass and pitch. We cut them off, and planted the stakes in large pots, which were sunk in the tan in a hot-house, and put forth abundant shoots, which they have now continued to do for four or five years. From these we have made some hundreds of plants, part of which are gone to the islands, and the rest are to follow. I am, Sir, &c. — X. Y. *April*.

The olive and the mulberry agree in this, that every part of the root, trunk, boughs, and branches may be turned into plants by separation; the small shoots, or spray, and the small roots, into cuttings; the larger shoots into stakes; the arms into truncheons; and the trunk, stool, and roots, into fragments having a portion of bark on each. The olive is so propagated in Italy. (See *Encyc, of Agr.*, § 288.) — *Cond.*

NORTH AMERICA.

Linnean Botanic Garden, near New York. — Sir, I have read the tissue of falsehood, calumny, and error, which has by some means found a place in your Magazine (Vol. III. p. 348.), signed A Philadelphia Nurseryman. To so base a communication, emanating from a source which I have reason to suppose of the most contemptible description, I cannot condescend even to reply; and in this opinion all my highly respectable friends concur with me. I, however, annex some letters from different gentlemen, indicative of their opinions of my establishment; and to you, personally, I will also make some comments. Immediately on perusing that communication, I addressed a letter to each of the principal Philadelphia nurserymen, requesting an avowal or disavowal of its authorship. In reply, no one presumed to avow its authorship; but from one I have not been able to obtain any but a quibbling reply, and this not signed by the persons of the firm itself, but by a substi-

tute. And, Sir, so respectable are the gentlemen of the profession generally, that I know no one base enough, except a stripling, scarce emerged from boyhood, with whom I never have had any association, and who has never, to my knowledge, visited my gardens but twice for a few minutes, the last time of which was about four years ago; and, Sir, this stripling, whom I suppose to be the author, could not, without a miracle, remember the fifteen years back he speaks of. And what will you think when I tell you, that neither he, nor the nursery he professes to represent, have ever received any such order from me, as the one he mentions of 300 species of plants. The purchases of D. and C. Landreth, for the last twenty-five years, have not averaged one dollar per year; and so far from their having 40 acres in nurseries, a nephew, who is connected with them, acknowledged the last autumn, in the presence of Mr. George C. Thorburn of New York, that but about one fourth of that space was thus occupied. If, Sir, you will take the pains to reperuse the two passages of the letter above referred to, you will find they are penned for evasion.

As there still seems a great want of information in Europe with regard to this country, it would be better that those interested in horticulture should send a deputation here, to pronounce upon the extent and merits of the different establishments, and upon the advances made in the departments of botany and horticulture; and I will pay 100 dollars, or 22*l.* 10*s.*, towards their expenses from my own pocket.

I have only further to add, that my establishment stands on its own basis alone, and that, unaided by any other, it fulfils the immense orders it receives; some idea of which may be formed by the circumstance of its having near one hundred agencies in different sections of our country, one of which is unfortunately located at Philadelphia, and the actual expenses of the establishment for the past year having exceeded 18,000 dollars, or 4000*l.* sterling. To conclude; all I have further to ask is, that you will render me that justice to which I am entitled, and that you will make known to me the author of the letter referred to. [We could give the signature of the person without any breach of confidence, but would rather wish to promote peace than ill-will.] Yours, respectfully,—*William Prince.*
March 15. 1828.

Copy of a Letter from Samuel L. Mitchill, M.D. LL.D., Professor of Botany and Materia Medica in the University, late President of the State and County Medical Societies of New York, Representative and Senator in Congress, Surgeon-General of the Militia, and President of the Lyceum of Natural History, &c., to William Prince. Dated New York City, Feb. 20. 1828.

Dear Sir, I am sorry to learn, by a communication from your son, received this day, that an anonymous writer had caused to be inserted in the Gardener's Magazine of London, a composition, undervaluing the Linnean Garden, of which you are the proprietor, and contradicting some of the statements in your catalogue. It seems to me, you give the publication of that letter more importance than it deserves; and, from its tenor, feel more solicitude than the occasion requires. The paper seems to have been written by one who styles himself a fellow-labourer, and who is a little envious of your reputation and success; such rivalships are by no means uncommon. I would make no formal answer to it in the Magazine; the regular course, in my opinion, is to meet all the attacks of the adversary in the next edition of the catalogue, and to prefix as circumstantial an account of your establishment as the case may require. It seems to me that nameless scribblers are not likely to do you much harm. I have been for several years, from time to time, a visiter of the Linnean Garden; I have been uniformly gratified by the vegetable exhibitions, and the information I obtained. The accession of articles is so frequent, that

each visit has been more interesting than that which preceded it. I have uniformly spoken in exalted terms of the success which had followed your exertions; and without intending extravagant praise or unfair comparisons, have said, I believed it was, upon the whole, the most extensive and valuable collection of the kind in the United States; and such is my opinion still, as far as I have been able to collect information. I have ever considered your statements to be true, and am surprised to find that any person calls them in question. I avail myself of the present occasion to tender you, once more, the expression of my good feeling toward yourself, and of my earnest wishes for the prosperity of your noble plantation. — (Signed) *Samuel L. Mitchill.*

Copy of a Letter from Doctor Felix Pascalis, President of the New York Branch of the Linnean Society of Paris, to Messrs. William and William Robert Prince, Proprietors of the Linnean Garden at Flushing, Corresponding Members of the Linnean Society of Paris, &c. Dated New York, March 1. 1828.

Gentlemen, I have read the whole of page 348. Vol. III. of the London Gardener's Magazine, and I am glad to find that the slanderous criticism of your botanic establishment in it, cannot be very successful in imparting serious impressions against your useful labours and prospects, and much less among your friends. It is more indicative of a bad humour vexing your rivals and competitors, than of any deficiency they would wish to reproach you of. The writer argues in the case, at best, from an error or mistake on his part, seemingly qualifying their own nurseries or garden by the number of acres in their deed of property, without designating the age or duration in existence of all matters appertaining to their establishment, while yours is the work of three generations of the same family, all in operation, and without the least vacant ground, not even in your last purchase and addition. As for the gross insinuation of your printed catalogues belying your collection, which is so often visited by learned botanists, it does not deserve refutation, and must recoil upon those who have proffered it. Your enemies do not, perhaps, know that, however extensive all the departments of your garden are, the requisite means of knowledge and practical skill, and of expensive labour, are always in readiness there, with a systematic method and order which I have frequently observed and admired.

It is no time now to wish you success, but only its continuation, with health and domestic blessings, in which sentiments I remain respectfully, Gentlemen, your humble and obedient servant. — (Signed) *Felix Pascalis, President of the Linnean Branch Society of Paris.*

Messrs. Thorburn's Defence of Mr. Prince. — Sir, We observed in your Gardener's Magazine (Vol. III. p. 348.) what we would call a very unwarrantable attack on William Prince's nursery at Flushing. We can tell you at once, that it is nothing but envy "*amang Kadgers.*" We have not one cent of interest in any nursery in the world, though we deal more or less with most of the nurserymen around Philadelphia, New York, and Long Island, and wish them all prosperity alike; but we cannot believe any of the Philadelphia nurserymen would write in the style of the communication alluded to. In the course of our business, we have been in company with most of the nursery and seedsmen within a thousand miles of us, but never before heard any of them dispute the fact, that Prince's collection and nursery is the best and most extensive in America. There may be nurseries growing where a hundred acres of land are enclosed, and, perhaps, not one thousand trees within the enclosure. We have known a nursery of forty or more acres, but the greater part of it was occupied in the raising of esculents. It is not uncommon in this extensive country, to see a township of

a mile square with only a church, a blacksmith's shop, an alehouse, and a few scattered houses. Much like this are many of what they call large nurseries; in short, a very great portion of the nursery business, from Philadelphia and New York, is done in winter to the southern states; and, as the river Delaware is generally covered with ice at that season, they have not the same facilities for extending their business, as the nurserymen near New York have. In short, they might as well compare the trade of London with that of Bristol, as compare Prince's nursery with any other nursery in America.

As to the attack on Mr. Prince's catalogue, we know it to be very incorrect, as business transactions to a very great extent have afforded us ample means of ascertaining that point with certainty. We have, moreover, a personal knowledge of the very large extent of his collection, as all his foreign importations arrive at the port, and are entered at our custom-house through one of our firm; so that his invoices pass through our hands, many of which have contained the most valuable plants known in European and South American collections. Those from France and Britain were of very great amount, and from the first establishments in these kingdoms. We are, &c.—*G. Thorburn & Son. New York, Feb. 22. 1828.*

An extract from a letter of Mr. Robert Carr, nurseryman, Philadelphia, disclaiming all participation in the attack of the Philadelphia Nurseryman, we omit, considering that we have already done ample justice to Mr. Prince. An account of all the principal nurseries of America, by Jesse Buel, Esq., of Albany, which shall appear in our next Number, will, we trust, set the matter at rest, and restore all parties to harmonious feeling.—*Cond.*

Mr. Hall's Garden in the Illinois. — Dear Sir, I send you an extract of a letter from Mr. Hall of Illinois, United States, which, I think, will interest your readers. In your Magazine (Vol. I. p. 327.) you gave an account and plan of his garden, to which he alludes. I am, &c.—*W. S. Feb. 19. 1828.*

"The description of my garden was by no means intended for publication; but if that, or any other portion of my correspondence, can be considered as possessing interest sufficient to deserve a place in that very useful work the Gardener's Magazine, I certainly can have no objection to its being published: on the contrary, I must feel gratified that any production of mine is thought capable of contributing to the promotion of an art which was a source of amusement and delight to me in early youth, and the practice of which I find more in accordance with the feelings and habits of my declining years, than any other employment.—I put my children through the classes and orders in botany last season; in the next we shall begin the genera and species, and I intend they shall make a catalogue of all the indigenous plants they can find growing in this vicinity, regularly as they come into flower. If successful in carrying this intention into effect, I will send Mr. Loudon a copy of it, but there is little doubt most of the plants here are in England already; if not, I shall be very happy to send seeds of such as are wanted by Mr. Loudon or his friends. I remember, myself, seeing some of the most beautiful of our plants in various collections before I left England, and many must have been since added. I read the account of plants growing in the neighbourhood of Constantinople (Vol. I. p. 293.) with much pleasure. At Wanbro', lying in lat. 38° 15', we enjoy as much sun as the inhabitants of Asia Minor, moisture in plenty, and I should suppose they could hardly boast a better soil. In climate they have an immense advantage; contiguous to the sea, on the N.W. coast, they escape the severity of the cold of our winters, caused by the north wind coming to us over such a great extent of frozen, uncultivated surface; which, though it seldom lasts longer at a time than two or

three days, is sufficient to destroy all the most hardy plants that are exposed to its influence. I have known the thermometer 13° below zero. Amongst the plants enumerated by Dr. Walsh, I recognise, as cultivated here, the *Solanum Melongèna*, *Hibiscus esculéntus*, several varieties of the families of *Cucúrbita*, *Cucumis*, and the *Ricinus communis*, which I was surprised to find did not ripen its seeds on the shores of the Bosphorus; it is cultivated to some extent in this neighbourhood, and many barrels of castor oil are annually sent to New Orleans. That most beautiful creeper the *Ipomœa coccínea*, called here the Cyprus vine, is trained round our windows, and the celebrated Mhadair of India (*Ipomœa quamoclít*) adorns our porches with its delicate pinnated foliage, and bright wreaths of crimson flowers. It is very manageable; and, by means of threads, may be trained into any shape of curtain drapery.

We have had a most abundant crop of *peaches* this year, and also of apples, but very few of my apple trees are yet in bearing. Mrs. Hall dried a large quantity of peaches in the sun for our family use, and great quantities rolled under the trees, which might have been converted into brandy, if we had had time to collect and carry them to the distillery. A bushel of peaches yields something less than a quart of spirit, half of which you give to the distiller for his trouble in distilling it.

We had but few *grapes* this season in the woods, they failed generally, and for the first time since I have been in the country, so that we are disappointed in our wine, which is no small matter; that made last year turned out very good, and I had intended making a considerable quantity this year. It is but lately that we found out the value of these wild grapes. I tried the specific gravity of the must from them two years ago, and found it to be 1091; this, by means of honey, of which it took one twelfth part, I brought to 1124, the specific gravity of 3lbs. of refined sugar, mixed with one gallon of water. The wine was good, and, as we get the grapes for only the trouble of gathering them, and have plenty of honey, all our expense is for the casks, which cost 1 dollar a barrel. I had the right of selecting cuttings from some of the wild vines (for, being all seedlings, they vary in quality), and making a plantation of them; but the want of fruit prevents my distinguishing them, and I must wait another year. The gravity of their juice is superior to that of any of the cultivated kinds I have heard of. We have had rather a moist summer and a wet autumn; our wheat crop was good, the quality excellent, and uninjured by the weevil; but the ravages of that destructive insect, for the last two years, have been so great, that many persons were discouraged from cultivating wheat, and but little was sown. This year there is much more, the Indian crop is very good, but much of it is still remaining in the fields, owing to hindrance from wet weather; but of this we think little, as it will stand out the whole winter, uninjured by wet or frost. It is a crop exceedingly well adapted to a thin population. This is the finest mast season I have hitherto seen, and the hogs are rolling about in the woods, quite fat, upon nothing but acorns and hickory nuts." — *Thomas Hall. Wanbro', Illinois, Dec. 10.*

Scions for grafting, received from Jesse Buel, Esq. of the Albany Nursery. — The Jonathan Apple. A medium-sized winter fruit, resembling *Æsopus Spitzenberg*, though I think preferable for the table, the flesh being more tender, less acid, and equally high flavoured. — The Mouse Apple. An earlier winter apple; flesh buttery, juicy, and peculiarly pleasant; colour yellow; size above medium. — The Poughkepprie Russet Apple. Believed to be very superior for cider, the juice abounding in saccharine matter, and syrupy. The process of fermentation in a cool temperature is very slow, and continues for a long time before the liquor becomes clear. — The Pawnal Spitzenberg Apple. Named from its native place, and from its resemblance to the *Æsopus Spitzenberg*. It is a very superior winter fruit. — The Straat (street) Apple. So named from the place where the present

tree grew. It is an autumn fruit, and, according to my taste, inferior to no fruit of the season; tender, juicy, and well flavoured. — The Beauty of the West Apple. A large showy winter fruit, and of pretty good flavour. — The Cas Apple. A good keeping winter fruit; juicy, mildly acid, and well-flavoured; the skin striped with dull red and green, and of a large size; the surface more oily to the hand than any other apple I have ever seen. — The Blucker's Gage Plum. Named after the clergyman who first raised it from a dried fruit received from Germany. It has a high reputation here, where plums grow in as great perfection as in any part of our country. Colour yellow; size pretty large.

These fruits have all of them an American origin, are most of them new varieties, and are but partially known to our nurserymen. Since making up the packet, I observe that the Straat, and that only, is in the collection of the Horticultural Society. — *J. Buel. Albany Nursery, Feb. 28.*

Our best thanks and wishes attend Mr. Buel for these cuttings, and for another communication, which shall appear in a future page. The cuttings are grafted and doing well, and we shall dispose of the shoots produced among our friends as scions. — *Cond.*

Botanic Garden of Montreal. — Such is the distribution and arrangement of the grounds of St. Helen, that the whole exhibits the appearance of a beautiful park. We found fine fruit, and some of the best grapes ever tasted, growing in the open air. A botanical garden has been partially laid out, but I was given to understand that Government had lately reduced the salary of the principal gardener. This will be highly detrimental to the horticultural interests of the country, and diminish the resort of travellers, and of the people of Montreal, to this charming island. (*De Roos's Personal Narrative*, p. 133.)

SOUTH AMERICA.

The El Achira is a plant producing an esculent root; thus described by Mr. Watts, in a letter dated Carthagera, July 19th, 1825: — "My Choco correspondent promises to send me two curious productions of that province; the one is called *El Clavellino*, or *Palo de Sangre*, the Blood Wood, which is a powerful styptic. The other is called *El Achira*, the plant and flower resemble so perfectly the Indian Shot plant as to be often taken for it, but it contains no pod bearing the black globular seeds of the former. When the plant begins to wither and decay, the root of it is mature, and proves a fine esculent substance, equal, if not superior, to the Arracacha root." The *Clavellino* I have since ascertained to be the *Brównia coccínea*, a handsome shrub, abundant in the vicinity of Scarborough, Tobago. The *El Achira* appears, from Mr. Watts's account, to belong to the order of Scitamíneæ, the roots of which are more or less aromatic. The *Cánna índica*, which, he says, it so strongly resembles, bears the open air here during, at least, six months of the year; and, hence, I am led to hope that the *El Achira* may furnish an addition to the stock of plants capable of cultivation in England. I have not yet succeeded in procuring the Cow tree, but hope, through the unremitting exertions of Mr. Watts, to do so ultimately. Mr. Watts writes me, that the *Arracacha* grows in the plains of Bogota, on an elevation of 8,700 feet (near three times the height of Snowdon, and above twice the height of Ben Nevis) above the level of the sea, and, consequently, in a temperature not greatly varying from that of the south of England to the westward. The mean temperature of Santa Fé de Bogota is 58°; the mean of the warmest month, 62°; and the mean of the coldest month, 57°. If there is any part in the south of England or Ireland of a similar temperature, there the Arracacha will grow in the open air all the year. The mean temperature of Plymouth is nearly 53°; the mean of the hottest month, 63°; and the mean of the coldest month, 42°.

As, according to Humboldt, the life of plants depends principally on the mean temperature of the hottest month [we should think this must be a mistake; for many plants that will grow in the north of Russia and Lapland during the summer, cannot exist there during winter; while no plant that can stand the winter of any country, will fail to thrive there during the summer of that country], there can be no longer a doubt of the successful culture of the Arracacha, not only in this neighbourhood, but even as far north as the latitude of London ($51^{\circ} 31'$), where the mean temperature of July is $62^{\circ} 50'$, or $\frac{26}{100}$ of a degree above that of Bogota. Nay, in the mid-land counties, where, from local causes, the mean temperature of July is necessarily higher than the standard of the latitude, as calculated for the Atlantic ocean by Kirwan, I should think it might be successfully cultivated as far as the latitude of 54° or even 55° . — *William Hamilton. Oxford Place, Plymouth Feb. 7. 1828.*

AUSTRALASIA.

Sydney, Nov. 15. 1827. — I shall endeavour to get you a correspondent here; but as yet both agriculture and horticulture are in their infancy in this country. There is, indeed, little prospect of agriculture ever being much attended to here. The settled part of the country is and must decidedly remain almost purely pastoral. Very few settlers ever think of raising more wheat or maize than is necessary for their own consumption; and this they raise without any trouble, growing the finest possible wheat on the same land for the last thirty years without any manure. Only two or three think of cultivating grasses, and yet, this year, hay made of clover and English grasses could scarcely be procured at 18*l.* per ton.]

If we could procure good gardeners, I think that horticulture would even flourish with us, but all your good gardeners are so honest that none of them are transported, and no free gardeners seem to think it worth their while to come hither for employment. I wish you would give a hint in your Magazine to good gardeners, and let them know that young men of honest, industrious, and sober habits, cannot possibly do better than to come hither, whether married or unmarried. A married man, however, would generally have the preference. We can grow all the European and tropical fruits here, without the aid of walls or glass. Gooseberries and currants are, I believe, the only exceptions. Strawberries thrive remarkably well, and we have generally two crops: the first in October, and the second about Christmas. Yours, faithfully, — *A. M'L.*

ART. II. Domestic Notices.

ENGLAND.

CAMELLIAS in the open Air. — Mr. Donald, of Goldworth nursery, sent us, on the 20th of March, the flowers of ten varieties, which have stood with him in the open garden, and flowered freely during two winters.

La Glacière de Saint Owen. — This utensil for preserving ice is much used in Paris, and has been tried and approved of by some gentlemen in the neighbourhood of London. One reader who purchased a *glacière*, in consequence of the notice in our First Volume (p. 444.), is desirous that we should state, that he has used it for upwards of a year, and found it answer every expectation.

New draining Tile. — At a quarterly meeting of the Boroughbridge Agricultural Association, held on the 5th of January, one of the members exhibi-

bited a model of an improved draining tile, which he calls a junction tile, being for the purpose of conducting the water from the branch drains into the main one. It differs from the common tile by its having an aperture in the side, and a short projection to join the tile in the branch drain too. Where the hole is in the side, the tile should be made stronger. It is placed in the main drain, where the branches are intended to enter it. The extra cost is trifling, compared with the advantage. — (*Farm. Jour.*, Jan. 14. 1828.)

The Farmer's Library. — A series of practical tracts on farming, gardening, and domestic economy are announced for publication by Mr. Murray. The object is stated to be, to diffuse a more general acquaintance with the principles of agriculture, supply the cultivators of the soil with a store of useful and agreeable information, and facilitate the general adoption of the most approved practices of husbandry, and a superior style of housewifery and cookery.

Application of Steam-Engines to Agricultural Purposes. — In farming there are few things that admit of the employment of steam power with economy; but, where it is employed at all, it is an advantage to apply it to as many purposes as possible. The species of work to which it is susceptible of application are, — thrashing and winnowing grain, chaff-cutting, grinding bones for manure, and to grinding corn for fattening cattle and for family uses. The boiler may be further applied to steam food for cattle. No other objects occur to me except to notice that for drainage in fenny districts, and for irrigation in others, it is worthy of the landowners' consideration whether its application would or not repay the expense. (*Tredgold's Treatise on the Steam-Engine*, p. 293.)

Substitutes for Mulberry leaves. — Dr. Sterler, of Bavaria, has found that the leaves of *Acer tartaricum*, a hardy tree, common in the nurseries, may not only be substituted for the mulberry, but are even preferred to it by silk-worms. Mr. Edward Herard, chemist, of London, has also shown, in a letter in Mr. Gill's *Technological Repository* for February, 1828, that worms, fed upon a particular variety of lettuce, yield an equal quantity of silk with those reared on the mulberry leaf. (*Mech. Mag.*, Feb. 2. 1828.)

Heating by Gas. — Mr. Strutt, of Derby, has begun to employ coal gas for the purpose of heating as well as of illumination. The double use of it has been often recommended, even as early, we believe, as the time of Winsor, but always unaccountably neglected. (*Ibid.*)

New Grapes and old ones have been sent to the table of Lord Surrey, by Mr. Acon, His Lordship's gardener at Worksop Manor, for three weeks past. — *J. T. Walbeck.* March 26. 1828.

The Lady-Bird (*Coccinella* of various species) is beginning to appear in immense numbers in Northamptonshire, Warwickshire, and other midland counties. A correspondent (R. B.) says, "they threaten us with a plague like one of the Egyptian visitations." We shall be particularly obliged to any naturalist who will furnish us with a full history of this insect, and particularly with reference to the British gardener and farmer.

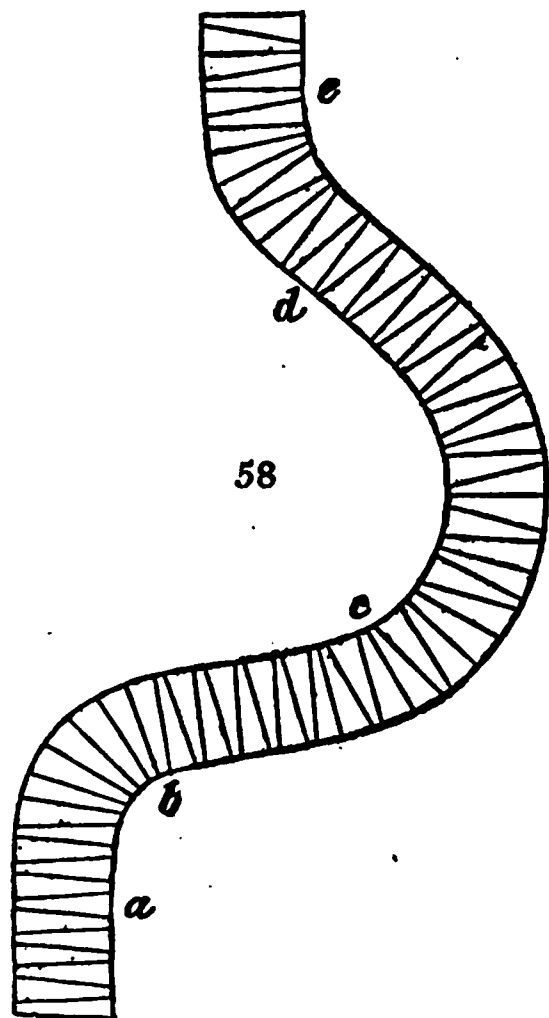
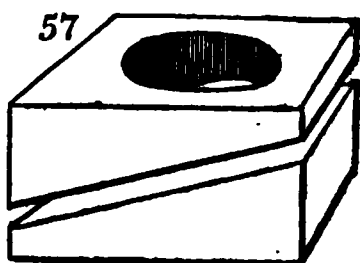
Mangold Wurtzel. — The culture of this plant has greatly increased in Guernsey, and crops have been raised of 100 tons per acre. (*Newsp.*)

Mr. Dalmaine of Dalston's Auricula. — Sir, From the mildness of the weather, the auricula bloom round London, though rather early, has been particularly fine this season; the plants in general have exhibited the most healthy appearance, and the luxuriant growth of the foliage has been such, as to completely cover the pots in many instances; the number of fine seedlings produced has been greater than usual; but the one which has surpassed all others, and attracted the most notice, is that of Mr. Dalmaine of Dalston, who is very proud of it, and has offered to show it for one hundred guineas against any other auricula in England.

The petals of this "eureka," this "venit tandem," are large and even, each consisting of six segments, well rounded; the tube and anthers of a bright buff, the pistil of the purest white, and the ground colour of a dark shining violet, surrounded with bright green edging, lightly powdered; the foliage large and indented; and the pedicels, eye, and stem of the best proportions. The common enquiry has been, have you seen Mr. Dalmaine's fine seedling? It is said to have been raised from Page's Duchess of Oldenburgh, crossed by Lee's Colonel Taylor, but far superior to either. Colonel Taylor, which has long been esteemed the leading flower, and the "pet of the fancy," will now be supplanted by its own progeny; and the fine seedlings of Goldham, Page, Laurie, Hogg, Parker, and Smith (Mr. Dalmaine's neighbour), will be completely thrown into the back ground.

I beg also to inform you, that it has been resolved by the principal florists' societies to furnish you with the lists of the different prize flowers, and the names of the successful candidates, for publication in your forthcoming *Florist's Gazette* in October. The late Mr. Middlecot's fine collection of auriculas, at Dulwich, has been lately sold by auction, and the rare and choicer varieties fetched good prices. Yours, &c. — *Young Bearslug*.
London, April 14. 1828.

London Institution, May 7. — A very interesting lecture on chimneys was delivered by Dr. Birkbeck, in which the nature and uses of Mr. Hiort's circular flues were pointed out and illustrated by models. By the use of wedge-shaped sections of cylinders, the circular flue may be built in every possible direction, and so as to form, in every case, a cylindrical tunnel, which may be freed from soot, in the most perfect manner, by machinery, without the aid of climbing boys. In order to have a clear idea how the flue is built, the reader has only to imagine wedge-shaped flooring tiles, with circular holes in them. (*fig. 57.*) If a flue, tunnel, or drain under ground is to be built in a straight or perpendicular direction, the thin and the thick edge of the wedges, or tiles, are laid against each other alternately (*fig. 58. a*); if the flue or drain is to be turned to one



side, proceed to lay the thin edges all on one side (*b*); and if the curve is to be very gentle, or to be serpentine, use the thick or the thin edges together, or alternately, as may be required to produce the line of direction proposed (*c d e*). Mr. Hiort divides his wedge tiles into four or five bricks, in order to effect the above and other purposes more perfectly. But as we have already recommended his book (Vol. I. p. 432.), and as the subject is not altogether within our department, we shall only farther say, that we think his plan by far the greatest improvement that has ever been made by any one individual in the construction of chimneys; that, if it were generally in use, there would scarcely be such a thing known as a smoky room or a climbing boy; and that government, after due enquiry, ought to purchase and throw open Mr. Hiort's patent, and pass an act to compel all chimneys to be built on his plan, or on such other plan as shall be equally eligible for being swept without the aid of climbing

boys; or, shorter and better, an act to forbid the use of climbing boys under a very heavy penalty. Dr. Birkbeck adverted to the exertions of the

Society for superseding the Necessity of Climbing Boys, No. 8. George Yard, Lombard Street, patronised by the king and by many names of the greatest weight. This Society recommends Mr. Joseph Glass, 2. Moor Lane, Fore Street, Cripplegate, for employment, as a sweeper of chimneys by mechanical means only. This man we hope will meet with every encouragement. In concluding his lecture, Dr. Birkbeck lamented the general apathy on the subject of climbing boys, but remarked that the friends of humanity ought not, on that account, to relax in their exertions; for the experience of the past had proved that no exertion in a good cause, however small, was lost; that every effort was attended by some progress towards the desired result. This progress might be for a long time unfelt or unseen, but it was as certain a result on the effort, as any other effect was the result of any other cause; and, finally, that no great and lasting effect was ever the result of a cause which did not operate slowly and by degrees.

Toads as Ant-eaters. — In the autumn of last year, a pit, wherein I grew melons, was so much infested with ants, as to threaten the destruction of the whole crop; which they did, first, by perforating the skin, and afterwards eating their way into the fruit; and, after making several unsuccessful experiments to destroy them, it occurred to me that I had seen the toad feed on them. I accordingly put about half a dozen toads into the pit, and, in the course of a few days, scarcely an ant was to be found. I am, Sir, yours, &c. — *T. Symons. Clowance, Cornwall, Feb. 20. 1828.*

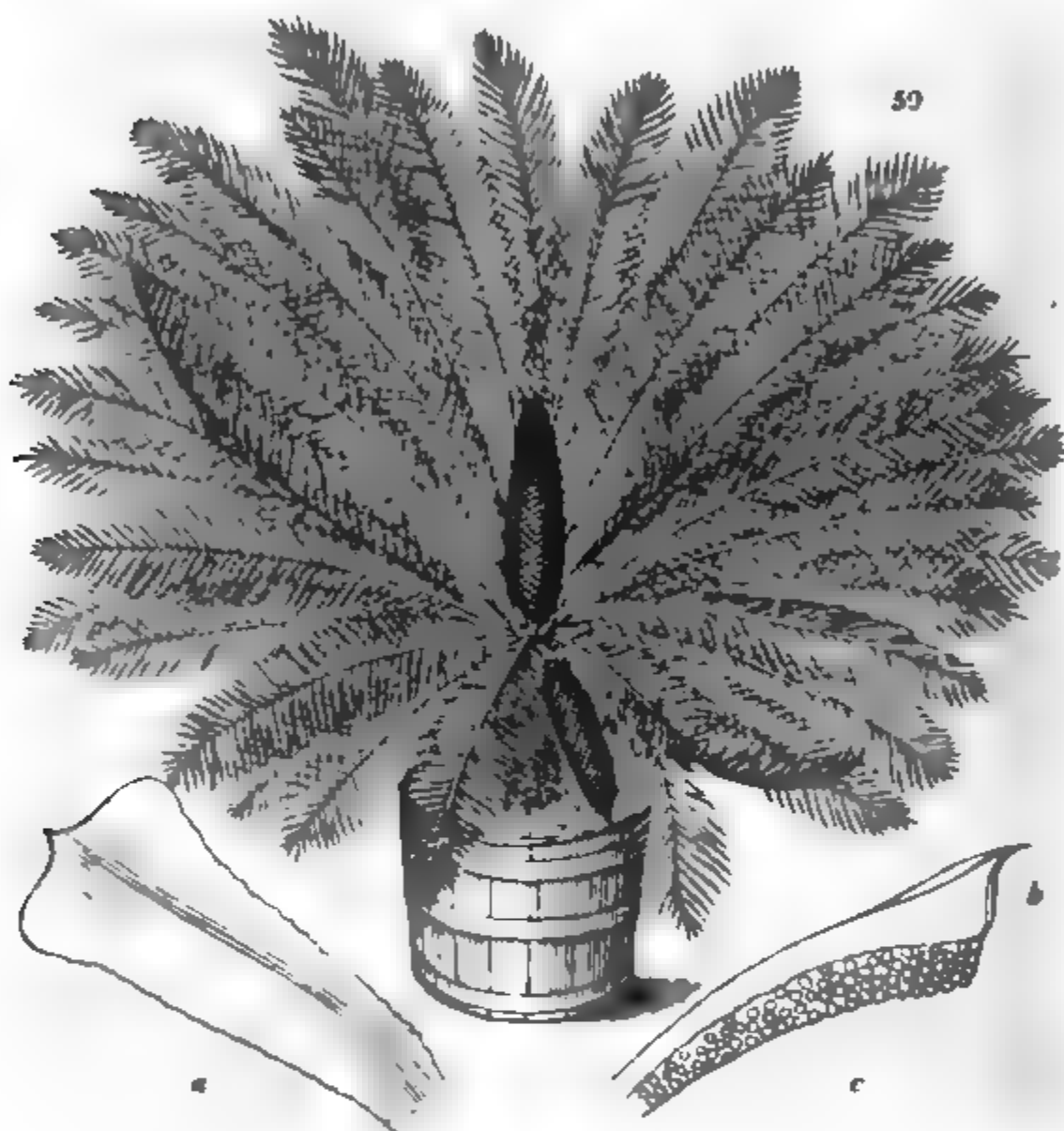
Benefits derived from Toads. — Few gardeners are aware of the very great good which results from preserving these unsightly but useful animals in gardens. Their natural food consists entirely of slugs [No! See Mr. French, in *Queries*, &c. p. 187.], worms, snails, flies, and, in short, of all those vermin which the gardener is anxious to get rid of; and, yet, how many are there who ignorantly and wantonly destroy them! I tell every new gardener who comes to me, that my toads are my best friends. I encourage both them and frogs. Thus my garden, formerly swarming with slugs, &c., is now comparatively clean [?], nor do I ever have my young plants injured. — *J. W. March, 1828.*

The Pita Plant. — We have succeeded in making some seeds of the Pita plant, nearly allied to the genus *Bromelia*, and valuable for the strength and durability, no less than the abundance of its fibre, which the Spanish writers report to be superior either to flax or hemp, germinate by previous maceration in water, till they began to swell. The seed, however, even with this preparation, almost exhausted our patience before the plants appeared above ground. The young plants, which are as yet of singularly slow growth, resemble in appearance young pine-apple plants, but, from the specimen I received, do not belong to the genus *Bromelia*, but constitute, as I am rather inclined to imagine will prove to be the case, a new and hitherto undescribed genus. I am promised some living plants, arrived at maturity, packed in charcoal powder, for whose arrival I shall look with much anxiety, as the progress of the seedlings is so slow as to leave little hope of seeing the flower under five or six years. — *William Hamilton. Oxford Place, Plymouth, Feb. 17. 1828.*

SCOTLAND.

Cycas revoluta, or *Sago Palm*, as in flower at Cally, Kirkudbrightshire, April 4. 1828. — Dear Sir, I herewith send you a sketch (*fig. 59.*), with a description and the dimensions of the *Cycas revoluta*, as it is at present in flower. I am informed that the plant has been in the gardens here upwards of thirty years, and that it must exceed forty years' growth. It flowered for the first time in June 1826, since which it has produced two growths of leaves, the last of which only remains. As it may not be unac-

ceptable to some of your readers to know the treatment under which it has been brought to flower, I will give you a short account of it. I had the plant shifted and much disrooted in August 1825, and during the fol-



lowing winter comparatively starved; it was in the spring following placed in a temperature which was gradually raised to 70° of fire heat, and copiously watered with water in which sheep's dung had been steeped, and in May it produced flowers. I was apprehensive it would die after flowering, as is the case with many plants that flower seldom; it however produced a growth of leaves in the August following. It was kept in a pineapple heat during the following winter, spring, and summer (1826-7), till it produced another growth of leaves, and in the latter end of July I had it moved into the open air, where it remained without any water, except what fell from the atmosphere, till the approach of rather sharp frosts in the mornings; I then had it moved under the shelter of a vinery, where it was comparatively starved till last Christmas, when it was moved into a temperature which was gradually raised to 70° of fire heat, and it showed flower in the end of February.

I am led to consider this a male plant; for, although there is at the top of the scales the appearance of a stigma, I cannot detect any thing like a germen in the scales, or at or in the stem of the catkin, and undoubtedly the yellow powder which falls out of the globules as they expand is the farina, for surely it cannot be the seed. I am, dear Sir, &c.—John Nisbett.

Our correspondent is correct in considering the flower a male; the generic character of *Cycas* is: — *male*, catkin imbricated; calyx, a spatulate scale; corolla, none; anthers, globose, sessile, on a scale: *female*, spadix compressed, two-sided; calyx, none; corolla, none; style, none; drupe, one-seeded. — *Cond.*

Description. The tub in which the plant grows is raised upon a stand, so that the leaves are within about 3 ft. of the glass: it is 2 ft. in depth, and 6 ft. 6 in. in circumference. The stock, or stem, of the plant is 1 ft. 6 in. in height, from the surface of the earth, in the tub, and 2 ft. 6 in. in circumference, covered with the remains of the different growths of leaves of a dark brown colour. The last growth of leaves includes thirty-six in number; the previous ones having been all cut off; in length they are 4 ft. 6 in., and in circumference at the tips 27 ft. In colour they are of a fine dark green, the ribs being rather lighter than the leaflets. The catkin, which rises perpendicularly out of the apex of the stem, has a very short footstalk, thinly set round with leathery spatulate scales, of a dusky orange colour, in height 2 ft. 10 in., and at the greatest circumference 1 ft. 5 in., tapering from about half-way up to the top. It is set round with about 1500 of these scales, regularly imbricated, which radiate from the centre. The one shown in the sketch (*a b*) is the full size, (*a* the breadth, *b* a side view,) taken from the bottom of the catkin; the others gradually diminish in size towards its top. The under sides of these scales as they come into perfection, become covered with numerous little globules (*c*), which expand into little cups, out of which a quantity of yellow powder falls, of a beautiful shining orange colour, which emits a very exhilarating resinous fragrance. The remains of the catkin produced in 1826 still hangs down under the leaves, a number of the scales having fallen, or been rubbed off from its top.

Laying out Part of the Calton Hill as Pleasure-Ground. — We observe with pleasure plans advertised for in the Edinburgh newspapers, for this purpose. There is no city in Britain which presents greater facilities for public walks and gardens than Edinburgh, notwithstanding the immense injury which it has sustained in a picturesque point of view by the earthen mound, and the mean buildings which cover great part of the bottom and sides of the valley of the North Loch. That valley ought to have been laid out in terraces, some open, or covered with glazed verandas, for winter use, and others shaded by trees for summer walking. The great art in laying out walks for recreation and ease on sloping surfaces, is so to direct them as not to render them more fatiguing than straight walks on level ground. But the grand subject of improvement at Edinburgh in the way of planting in public walks, is the hill of Arthur's Seat, which, planted and built on, might be rendered one of the most unique scenes in Europe. (See *Encyc. of Gard.* § 7317.)

North British Professional Gardeners' Society. — The April competition of this Society took place on the 16th of that month. From the mildness of the weather it was to be supposed that the articles exhibited would be excellent; and, while they really were so, the broccoli, the endive, sea-kale, and auriculas were far superior to what was to be expected. After a careful examination of the various articles, prizes were awarded as follows: —

For the best three heads of broccoli, to James Goddall, gardener to the Most Noble the Marquess of Lothian: for the best six crowns of sea-kale, to the above James Goddall; to Thomas Liddel, gardener, East Wariston, for the second: for the best imperial quart of mushrooms, to Allan Galloway, gardener, Springfield House: for the best three double wallflowers, to John Young, gardener to Thomas Oliver, Esq., Bruntsfield; to Daniel Sinclair, gardener to James Donaldson, Esq., Broughton Hall, for the second: for the best six sprigs of border flowers, to Dugal M'Ewan, gardener, Beachwood; to Robert Lees, gardener, Mount Lodge, for the second: for

the best six stage auriculas, to John Young, gardener to Thomas Oliver, Esq., Bruntsfield; to David Stephen, gardener, New Liston, for the second. (*Scotsman*.)

Vegetable Market. — Watering gives vegetables long exposed a fresher colour and a more attractive appearance; but repeated waterings are highly pernicious, as they neutralise the natural juices of some, render others bitter, and make all others vapid or disagreeable. This practice has, however, been long persisted in, and is not likely to be left off, till the dealers find it for their interest to attend more to the quality than the appearance of their vegetables. Owing to the want of sunshine, asparagus and sea-kale are so scarce that the prices are not fixed. Garden cresses are getting plenty. Pickling cabbage are about done, and broccoli is getting scarce and dear; ordinary heads now cost from 4d. to 6d. Kitchen articles of all sorts are plenty and cheap. (*Scotsman*, April 26.)

Several hundred Almonds have, this year, ripened in the garden of Harviestown, in the county of Clackmannan, in the open air, upon standard trees. The trees are all young; and the fruit, which is now gathered in, is quite as large, and is said to be as fully flavoured, as the best Jordan almonds. (*Scotsman*, Dec. 26.)

Dwarf Almond. — I have cultivated the Single Dwarf Almond, *Amygdalus nana*, for a great number of years, and either from the soil, or situation, or both, being propitious, it thrives uncommonly well, the plants attaining between four and five feet in height. Although covered every year profusely with blossom, I never was able to get it to fruit till last year, when six or eight almonds ripened on it, one or two of which I sent to Mr. Barnet, of the Caledonian Horticultural Society's garden, Edinburgh. The almonds represented in miniature the common almond, and were intensely bitter. Perhaps this may not be an uncommon occurrence; but I notice it as the only instance that has come within my knowledge, and no person to whom I have mentioned it has seen the shrub in fruit. I am, dear Sir, &c. — *John Ferme. Haddington, April 1. 1828.*

IRELAND.

Belfast Botanic and Horticultural Society. — The following is from a printed circular: — I am directed by the Committee to state, that they have purchased a most eligible piece of ground containing fourteen acres, for the purpose of carrying the intentions of the subscribers and friends to the establishment into effect. It is situated within a mile of Belfast, extending from the Malone road down to the river Lagan, and possesses a variety of soil and surface, while it commands, on every side, the most rich and beautiful prospects.

The Committee, therefore, request your favourable attention to the subject, in the firm belief that a garden, such as is about to be formed, must be equally useful to the community, and creditable to those who lend it their assistance. Botanic gardens, supported by public subscription, have been formed both in England and Scotland. These, while they serve as monuments of the taste and munificence of the inhabitants, form most attractive objects for the inspection and gratification of strangers; besides being delightful places of recreation during the occasional moments of leisure from business. Among the various benefits likely to result from this establishment, we would particularly state the following: —

It will, we apprehend, prove a desirable place of public recreation. It is, perhaps, too prevalent an idea, that a botanic garden can be useful only to persons who have a taste for flowers, or who may wish to pursue botany as a science. But this is altogether erroneous; as one great object of such a garden as is now to be formed, is, that it may be a delightful place of resort, a place for taking occasional air and exercise; for enjoying an agreeable walk, and the pleasures of the summer. It is not, however, to

be deemed of slight consequence, that opportunities will by this establishment be afforded for the cultivation of botanical science. For, however unconcerned in the latter, the generality of people may be as individuals, yet every man of patriotic principle would wish to encourage the growth of this branch of science among us, when he considers that in it and in every branch of natural history, Ireland is considered as being very far in the back-ground. There is another circumstance, too, in the present case, which should have some influence. This will be the first thing of the kind established in Ireland. There are, indeed, two botanic gardens in Dublin, one supported by the college, and the other partly by government. There is a garden in Cork, which is partly supported by government also; but the people of Belfast have been the first to step forward and form a garden for themselves; a garden, the sole property of the inhabitants of the country, supported by the inhabitants, not dependent on any other establishment, not calling on the aid of government, but maintained by the free, independent, voluntary support of a people, the first in the commerce, and certainly not the last in upholding the honour, of their country.

Another advantage to be expected from this establishment, is, the introduction and dispersion over the country of many fruits, shrubs, trees, and useful esculent vegetables not hitherto known here.

There is another result, also, which may be confidently anticipated; and one by no means of local concern only: that is, the introduction of a *superior style of gardening*; for it is well known, that in this useful art we are far behind the sister kingdom. It will be a matter of primary import, to have a man of undoubted qualifications, both as a practical and scientific gardener, appointed as chief curator; a man acquainted with modern gardening in all its most improved forms. The apprentices, then, who will be taught their profession under his care and direction, will come out formed in a very superior mould. They will be employed as gardeners by the gentlemen throughout the country. They will serve to do away the degrading necessity we so often lie under, of having to bring our gardeners from England or Scotland. The Belfast garden will thus, in some measure, prove of national benefit; and that consideration ought to recommend it to the protection, not of those only who reside in its immediate neighbourhood, but also to that of every man in Ulster who has the improvement of the country at heart.

The Committee conceive, also, that *agriculture will be materially served*, as a portion of the garden will be appropriated to the culture of grasses, and such plants as are important to the farmer and agriculturist. Those of new introduction, or connected with recent improvement and discovery, will especially be attended to. The landed proprietors and farmers in the country at large, will thus have an opportunity of obtaining samples for culture of new vegetables, forest and fruit trees, &c., with the newest and best information respecting them.

The Committee think they need not press this subject any farther; as it is presumed that the advantages to be derived from the establishment now commenced, must be sufficiently obvious. They, therefore, look with confidence to your support and countenance; and as it is particularly desirable that the arrangements should be carried into effect with the least possible delay, they request, with all due respect, an early answer to the present application.—*James L. Drummond, M.D., Corresponding Secretary. Belfast, January, 1828.*

Cork, April 7. 1828. — We had scarcely any frost here last winter. The Cape geraniums lived in the open air, without sustaining any injury. We had no sun, excepting on one or two days in the month of March. The botanic garden here is about 30 ft. above the level of high water mark, and we are said to have more rain than in any other part of Ireland, which, however, remains to be proved.—*J. Drummond.*

ART. III. Covent Garden Market.

PRICES FOR THE FIRST AND SECOND WEEKS OF MAY.

	From			To				From			To		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
<i>The Cabbage Tribe.</i>													
Cabbage, White, per dozen	0	1	0	0	2	0	Endive, per score	0	2	0	0	5	0
Cauliflowers, per dozen	0	9	0	1	10	0	Celery, per bundle (12 to 15)	0	0	9	0	3	0
Broccoli, White, per bunch	0	2	0	0	5	0	Small Salads { per half sieve	0	1	6	0	2	0
Broccoli, Green, per bunch	0	1	0	0	2	0	{ per punnet	0	0	3	0	0	0
Broccoli, Purple, per bunch	0	1	0	0	2	0	Watercress, per dozen, small bunches	0	1	0	0	0	0
<i>Legumes.</i>													
Peas, per half sieve	3	3	0	0	0	0	<i>Pot and Sweet Herbs.</i>						
Kidneybeans, Forced, per 100	0	2	6	0	4	0	Parsley, per half sieve	0	0	9	0	1	6
<i>Tubers and Roots.</i>													
Potatoes, New, per pound	0	1	0	0	2	0	Tarragon, per doz. bunches	0	2	0	0	4	0
Turnips, White, per bunch	0	1	0	0	3	6	Fennel, per dozen bunches	0	2	0	0	3	0
Carrots, Young, per bunch	0	1	0	0	2	6	Sage, per dozen bunches	0	4	0	0	6	0
Carrots, Horn, per bunch	0	1	6	0	2	6	Mint, per dozen bunches	0	1	0	0	2	6
Red Beet, per dozen	0	1	0	0	1	6	Basil, Young, per doz. bun.	0	12	0	0	0	0
Horseradish, per bundle	0	1	6	0	4	0	<i>Stalks and Fruits for Tarts, Pickling, &c.</i>						
Radishes, Red, per doz. hands (24 to 30 each)	0	0	4	0	1	0	Rhubarb Stalks, per bundle	0	1	0	0	2	0
Radishes, White Turnip, per bunch	0	1	0	0	2	0	<i>Edible Fungi and Fuci.</i>						
<i>The Spinach Tribe.</i>													
Spinach, per sieve	0	0	9	0	1	6	Mushrooms, per pottle	0	0	9	0	2	0
Sorrel, per half sieve	0	1	0	0	1	6	<i>Fruits.</i>						
<i>The Onion Tribe.</i>													
Onions, Old, per bushel	0	8	0	0	15	0	Apples, Nonpareils, p. bush.	2	0	0	4	10	0
Leeks, per dozen bunches	0	1	6	0	0	0	Apples, Baking, per bushel	0	14	0	1	5	0
Garlic, per pound	0	0	5	0	0	8	Apples, French, per bushel	0	6	0	1	0	0
Shallots, per pound	0	0	4	0	0	6	Pears, Bon Chrétien	0	0	6	0	1	6
<i>Asparaginous Plants, Salads, &c.</i>													
Asparagus, per hundred	0	3	0	0	14	0	Peaches, per dozen	1	10	0	3	0	0
Sea-kale	0	2	0	0	3	6	Nectarines, per dozen	1	10	0	3	0	0
Lettuce, Coss, per score	0	1	0	0	4	0	Cherries, per pound	0	10	0	1	4	0
							Gooseberries, per half sieve	0	6	0	0	15	0
							Strawberries, Forced, per oz.	0	0	9	0	1	6
							Pine-apples, per pound	0	8	0	0	16	0
							Hot-house Grapes, per lb.	0	6	0	0	16	0
							Cucumbers, Frame, per brace	0	2	0	0	5	0
							Oranges { per dozen	0	1	0	0	3	0
							{ per hundred	0	8	0	0	18	0
							Lemons, per dozen	0	6	0	0	14	0

Observations. — Peas in the pod were exposed for sale, for the first time, on the 29th of April. In general, there has been an abundant supply of every culinary vegetable, and of most fruits of the season. Pine-apples have been plentiful and cheap throughout the winter. — *M. May 15.*

ART. IV. Horticultural Society and Garden.

APRIL 1. 1828.—Read. Method of preparing Vine Plants, in a letter to the Secretary, by Sir George Steuart Mackenzie, Bart. F.H.S. On training of Fruit Trees, by the same. Description of some new Varieties of Pears, in a letter to the Secretary, by Thomas Andrew Knight, Esq. F.R.S. &c., President.

Exhibited. Rhododéndron arbóreum, from Sir Everard Home, Bart. F.H.S. A collection of Auriculas and Polyanthuses, from Mr. William Hogg, of Paddington. A collection of new Ericas (in pots), from Mr. George Rollison, F.H.S. Single White Azàlea indica and Double Purple Azàlea indica, from Mr. Samuel Brodie, F.H.S. Golden Pippin, Nonpareils, and White Reinettes. Worrell Pippin, and specimens of a Seedling Apple, from Mr. Richard Williams, F.H.S. Nineteen sorts of Apples named, and fourteen sorts unnamed, from Mr. Hugh Ronalds, F.H.S. Boughtiné Apples, from M. Jean le Clerc of Paris. Wine Sour Duncan Apple, from Mr. John Haythorn, F.H.S. Bon Chrétien Pears, from Rouen. Highbury Pear, from Lancelot Haslope, Esq. F.H.S.

Also, from the Garden of the Society. Common and Blotch-leaved Succory, Asparagus forced in the open ground, and Mushrooms from the Russian House. Flowers of Fritillaria, Single and Double Poppy Anemones, Double Furze, varieties of Narcissuses, *Gesneria Douglassii*, *Tulipa oculus solis*, *Euphorbia rigida*, and *Camellia reticulata*; also a plant in flower of *Oxalis floribunda*, a very showy stove annual.

April 15. — Read. Upon a new mode of constructing Vineries, in a letter to the Secretary, by Mr. William Spring.

Exhibited. Twelve varieties of Tulips, and four varieties of Hyacinths, from Mr. Henry Groom, F.H.S. Bon Chrétien Pears, from Rouen. Reinette grise, from Normandy, Old Golden Pippins, and Old Nonpareils. Jonathan Apple, from Jesse Buel, Esq. C.M.H.S. of New York.

Also, from the Garden of the Society. Flowers of *Cymbidium aloëfolium*, *Tulipa oculus solis* var. *persica*, Double Sloe, Double Furze, early Tulips, varieties of Narcissuses, Double Poppy Anemones, Single Poppy Anemones, *Fritillaria Meleagris*, *Fritillaria latifolia*, *Ribes aureum præcox*, and a plant in flower of *Oxalis floribunda*.

May 6th. — Read. An account of a Machine for removing large Trees, by Mr. Selby Bennett, gardener to the Earl Manvers, F.H.S. On Canker in Fruit Trees. On a Coccus that has destroyed the Silver and Balm of Gilead Firs, by Sir George Steuart Mackenzie, Bart. F.H.S.

Distributed. Knight's Dwarf Marrow Pea, from Mr. William Malcolm. Cardon d'Espagne, Laitue de Malthe, and Potiron jaune, from M. Vilmorin, C.M.H.S. New Curled White Beet, from the garden of the Society.

Exhibited. Double Red Camellias, and a Madras Citron, from William Wells, Esq. F.H.S. *Camellia hexangulæris*, from John Allnutt, Esq. Eleven sorts of Tulips, from Mr. James Young, F.H.S. Lemons grown in the open air, from G. F. Luttrell, Esq. Lemons grown in a conservatory, from Lord Hood. Bess Pool Apples and Cluster Golden Pippins, from Robert Holden, Esq. F.H.S. Reinette Blanche from Normandy, Winter Pearmain, and Fearn's Pippin. Apples from plants in pots, from Daniel Edward Stephens, Esq. F.H.S. Bon Chrétien Pears, from Rouen. A Pear unnamed, from Mr. Selby Bennett, gardener to the Earl Manvers, F.H.S.

Also, from the Garden of the Society. Keen's seedling Strawberry, forced. *Rhëum hybridum*, blanched under pots without tan, and blanched under pots with tan. Buck's Rhubarb, and ten other varieties. Asparagus and Vanack Cabbages. Double and Single Tulips. Double and Single Anemones, Oxlips, Cowslips, *Valerianella congesta*, *Prunus serrulata*, Merisier à fleurs doubles, *Rosa Banksia lutea* in a pot, *Glycine sinensis* [*Wisteria Consequana*], *Amaryllis Coboúrgia*, *Iris chalcédonica*, and Double Furze.

Medals presented. To Richard Parkinson, Esq., of Hereford, for the extensive collection of specimens of Herefordshire Apples, transmitted by him to the Society in the last autumn. To Mr. Archibald Gorrie, of Annatt, Perthshire, for his paper containing An Account of Scotch Pears, which is ordered to be printed in the *Transactions* of the Society. To Mr. David Douglas, gardener to the Lady Grantham, of Putney Hill, in Surrey, for his exhibition of Double Dahlias, all of which, without exception, were flowers highly deserving cultivation, and were particularly excellent in the dark-coloured varieties. To Mr. Thomas Wells, gardener to John Wells, Esq., of Bickley, in Kent, for his exhibition of Double Dahlias, which was very extensive and well selected, the greater part being seedlings raised by himself. To Mr. Joseph Wells, gardener to William Wells, Esq., of Redleaf, in Kent, for his exhibition of Double Dahlias, the particular excellence of which consisted in the superiority of the scarlet flowers, and of the blossoms of dwarf varieties. To Sir Henry Chamberlain, Bart., late His Majesty's Consul-General at Rio Janeiro, for the introduction of several new and splendid plants, transmitted and brought to the garden of the Society by him, in the last and previous

years. To Patrick Mathew, Esq., of Gourdie Hill, in Perthshire, for the fine and extensive collection of Apples from the Carse of Gowrie, sent for exhibition and examination to the Society in the last winter.

May 20. — *Read.* On a Cure for Disease in Fruit Trees, by the Rev. Stephen Middleton.

Exhibited. Kneve's New Pine Strawberry, forced, from Mr. Samuel Kneve, F.H.S. Small Cantaloup Melon, from Mr. Patrick Flanagan, F.H.S. Giant Rhubarb, raised by Mr. Joseph Myatt, from Mr. James Buchanan, F.H.S. Plant in flower of *Mimulus luteus rivularis*, from Mr. James Young, F.H.S. Flowers of *Combrétum comosum*, from the Comte de Vandes, F.H.S.

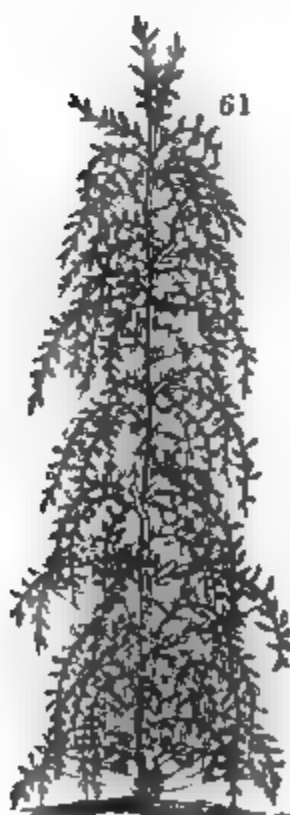
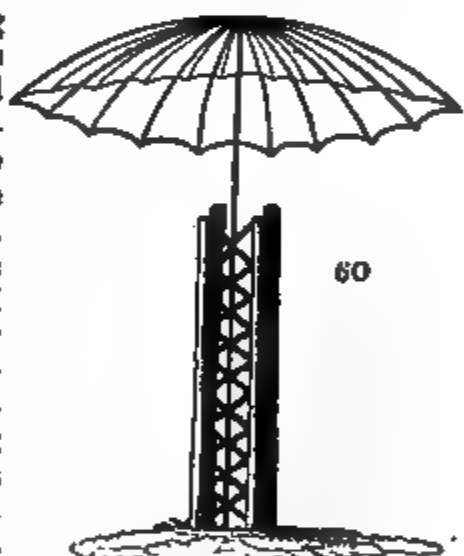
Also, from the Garden of the Society. Four sorts of Rhubarb, Asparagus showing the effect of different methods of cultivation, Keen's Seedling Strawberry, forced. Flowers of *Pancratium illiricum*, Straw-coloured Broom, *Cratægus heterophylla*, *Cratægus Oxyacantha* var. *rosea superba*, *Mespilus grandiflora*, *Æsculus carnea*, Rose Boursault, *Calceolaria corymbosa*, *Lupinus polyphyllus*, Single Tulips, *Collinsia grandiflora*, *Valerianella congesta*, Double and Single Pæonies, and a plant in flower of *Calceolaria integrifolia* var. *angustifolia*.

It was announced that a fête would be given on the 25th of June, similar to that of last year.

Chiswick Garden, April 24.—The general appearance of vegetation is favourable. The half-hardy shrubs and trees on the walls have stood the winter well, and the bulbs, and other spring flowers are in their usual vigour. *Wisteria Consequana*, trained on a wall and exposed to the south, had some of its blossoms injured by a frosty night in March; those which now remain are expanding their purple flowers in a style of regal magnificence. Perhaps if this shrub were planted at the foot of a tree, and allowed to climb and twine among its branches, it would be better protected than against a wall, unless the

latter had a projecting coping. Trained on an umbrella trellis (fig. 60.), the shoots would probably protect themselves (that is, their buds), and the long pendent purple blossoms would form a magnificent canopy. *Berberis acicularis* and *Aquifolium*, in the open arboretum, have endured the winter perfectly, with occasional coverings of wickerwork. Some species of *Metrosideros*, and *Eucalyptus* on a wall are in perfect health, after having passed two winters there with very little protection. We have no doubt a great number of Australasian, Chinese, and Japan plants, now kept in stoves and green-houses, would bear the open air, or, at all events, a cold-pit or cold glass case, as well as the two plants mentioned.

The fruit trees in the orchard and kitchen-garden are not very full of blossom, but they are in vigorous health, which at their age is better. A long row of standard pear trees trained *en quenouille* (Vol. I. p. 467.), or more correctly, as applied to the trees at Chiswick, *en pyramide*, with the additional feature of the points of the shoots tied down (fig. 61.);



has a very fine appearance. The different sorts appear not less different in the earliness or lateness of their foliation and inflorescence, than in the leaves and shoots. In autumn the different tints of their leaves, and the various sizes, forms, and colours of the fruits will be still more interesting. In short, this single row of pear trees is one of the most interesting features of the garden. The shoots of the current year are bent down, when fully grown, about the end of July, and fixed in a pendent position by shreds of bass; in the course of the winter these shreds are removed, to admit of pruning, when the shoots are found to have taken a set; in the course of the summer, such as grow too vigorously are again tied, the object being to check the vigour of the young shoots, and, by impeding the return of the sap, to cause it to expend itself in these young shoots in the formation of blossom buds.

In the plant stoves, *Oncidium lùridum*, *Calánthe veratrifòlia*, *Cymbidium aloefòlium*, and some other handsome orchideous epiphytes, are in flower; also *Oxalis floribúnda* (Vol. II. p. 432.), a handsome stove annual which flowers all the winter, and that splendid liliaceous plant *Crinum amabile*.

ART. V. *Provincial Horticultural Societies.*

THE Durham, Northumberland, and Newcastle upon Tyne Botanical and Horticultural Society held their second General Meeting for this year on April 18th. Among the most prominent articles of exhibition were a number of bouquets, chiefly from the gardens of Dr. Headlam, of Jesmond; Matthew Bell, Esq. M.P., Woolsington; Edward Charlton, Esq., Sandoe; and the Rev. C. Thorp, M.A., Ryton Rectory; which consisted of a great variety of beautiful specimens of hardy and exotic flowers, and, at this early season of the year, excited the universal attention and unqualified admiration of a numerous assemblage of ladies and gentlemen. The Committee deserve great praise for the very neat vases they have adopted for the reception of the bouquets exhibited. Two very fine shaddocks were also exhibited, from the garden of Charles Bacon, Esq., Styford Hall; and a treat to the members present was afforded by the distribution of 125 packages of seeds of new vegetables, sent to the secretaries for the purpose, by the London Horticultural Society. The prizes awarded by the judges were as follow, viz.:—For the best dish of dessert apples, and the best six heads of purple broccoli, the silver and bronze medals to Mr. Jos. Clarke, gardener at Mrs. Bewicke's, Close House. For the best brace of early cucumbers, the silver medal to Mr. Hugh Robson, gardener to C. Bacon, Esq. For the best quart of early potatoes, the silver medal to Mr. James Scott, gardener to Edward Charlton, Esq. For the best six heads of white spring broccoli, the bronze medal to Mr. Thomas Pearson, gardener to Isaac Cookson, Esq. jun., Gateshead Park House. For the best six early cabbages, the bronze medal to Mr. Thomas Cook, gardener to T. W. Beaumont, Esq. M.P., Bradley Hall. For the best bouquet of early flowers, the silver medal to Mr. Christopher Robson, gardener to Dr. Headlam. (*Newcastle Courant*, April 19.)

The *London Horticultural Society's large Silver Medal*, to be awarded to the member of the Newcastle Society who shall be thought most deserving, for his exhibitions, writings, &c., was, on the 22d of February, awarded by the Committee to Mr. Thomas Cook, gardener to T. W. Beaumont, Esq. M.P., Bradley Hall, Durham. — *W. F. jun. March 20.*

At a subsequent Meeting, held on April 24., it was resolved that a *Botanical and Horticultural Library* be established by this Society. — That 30s.

be placed at the disposal of the Committee, to buy elementary and scientific works, in the first instance; and that an annual sum of 25*l.* be allowed for the purchase of books, and other incidental expenses, from this time, from the funds of the Society. — That donations of botanical and horticultural books be earnestly and respectfully requested from members of the Society, and others friendly to it, and to the institution of a library; and that application be made to the secretaries of other societies for donations of their *Transactions*, &c. (*Newcastle Courant*, April 26.)

Herefordshire Horticultural Society. — The first Meeting of this Society, for the present year, was held at the New Shire Hall on April 16th. The very unfavourable state of the weather prevented the usual full attendance of the subscribers, although a large number visited the room. The show of auriculas and polyanthus was not so fine as it would have been, had the meeting taken place some days later, but we never remember to have witnessed a finer display of hyacinths and vegetables; of the latter, particularly mushrooms, cucumbers, French beans, sea-kale, rhubarb, broccoli, and cabbage. There were also several plates of remarkably fine apples in a high state of preservation. We observe in the new rules of this year several very judicious alterations, especially those which insure a fair distribution of the rewards. The prizes are in future to be awarded by two members of the Committee and some scientific gardener; neither of the former to exhibit for prizes, the latter to be chosen by the Committee, as assistant censor, at each Meeting. This person is to be a stranger, and every precaution will be taken that he may not know to whom the productions belong that are exhibited for prizes. The vegetables, &c., not removed by the respective exhibitors were sold for the benefit of the Society's funds, and produced a considerable sum. The following prizes were awarded at this Meeting: —

Plants. *Stove:* *Cactus speciosa*, W. Godsall. *Green-house:* First prize, *Epacris grandiflora*, Miss Grove. Second prize, *Brachysëma latifolium*, Miss Grove. Third prize, *Eutaxia myrtifolia*, Sir J. G. Cotterell. *Hardy:* First prize, *Fritillaria imperialis* (yellow), Mrs. Jones, Sugwas. Second prize, Double Velvet Primrose, W. Godsall.

Mushrooms. First prize, R. J. Powell, Esq.

Auriculas. *Green Edge:* First prize, Wood's Lord Lascelles, Sir J. G. Cotterell. Second prize, Stretch's Alexander, Sir J. G. Cotterell. *Grey Edge:* First prize, Rider's Junius, Mrs. Parkinson. *White Edge:* First prize, Hughes's Pillar of Beauty, W. Godsall.

Selfs. First prize, Berry's Lord Primate, W. Godsall. Second prize, Redman's Metropolitan, W. Godsall.

Sea-kale. First prize, Miss Grove.

Cucumbers. First prize, Archdeacon Prosser. Second prize, Sir E. F. S. Stanhope.

Broccoli. *White:* First prize, Miss Grove. *Purple:* First prize, T. H. Symons, Esq.

Cabbages. Early Compton, first prize, Sir J. G. Cotterell.

Dessert Apples. First prize, Winter Crofton, Mrs. Jones, Sugwas. Second prize, Golden Rennet, T. H. Symons, Esq.

Dessert Pears. First prize, Mrs. Parkinson. Second prize, Mrs. Jones, Sugwas.

Asparagus. First prize, Archdeacon Prosser.

French Beans. First prize, Archdeacon Prosser.

Potatoes. First prize, Sir E. F. S. Stanhope.

Polyanthus. *Red:* First prize, Seedling, Mrs. W. Pateshall. Second prize, Seedling, Mrs. W. Pateshall. *Dark:* First prize, Jessit's Louisa, Mrs. W. Pateshall. Second prize, Seedling, Mrs. W. Pateshall.

Hyacinths. *Double Blue:* First prize, Globe Celëste, W. Godsall. *Double Red:* First prize, Groot Vorst, Mrs. Parkinson. Second prize,

Fl6s Sanguinea, W. Godsall. *Double White*: First prize, Pigeon, W. Godsall.

The gardener of Archdeacon Prosser cut a brace of cucumbers on the 26th of March. The gardener of William Pateshall, Esq., cut six heads of sea-kale on the 8th of February. (*Hereford Journal*, April 23.)

Ross Horticultural Society. — The first Meeting, of this Society for the present year was held April the 23d, and was attended by a numerous and highly respectable assemblage of the subscribers and their friends. The exhibition gave universal satisfaction, far exceeding the expectation of the most sanguine, considering the very unfavourable state of the weather for some time previous. A choice variety of green-house, stove, and hardy plants covered the grand stand, and we never remember a more interesting and brilliant display. The stage of auriculas and polyanthuses had a very splendid appearance; it contained all the most choice and valuable specimens in each of the several classes. The auriculas were inferior in colour to those of last year, but the trusses were superior in size and strength. We never saw a flower equal to that which obtained the first prize in the green edge class; the flower which took the last prize in the same class (Lee's Col. Taylor), is allowed to be the best green edge in England, but its weakness in bloom accounts for its not taking a higher prize. The polyanthuses and hyacinths were in extraordinary strength of bloom and colour. The culinary vegetables were particularly fine, and there were several varieties of fine apples in excellent preservation. Several new subscribers entered the Society (now amounting to about 350); the next Meeting was fixed for the 21st of May. The number of specimens ticketed and entered in the Society's books amounted to 506. The evening sale produced 1*l.* 15*s.* The prizes were awarded as under: —

Auriculas. *Green Edge*: First prize, Booth's Freedom, Colonel Money. Second prize, Lancashire Hero, T. B. Parkyns, Esq. Third prize, Pott's Regulator, Mrs. Westfaling. Fourth prize, Badajos, Mrs. Westfaling. Fifth prize, Lee's Colonel Taylor, T. B. Parkyns, Esq. *Grey Edge*: First prize, Kenyon's Ringleader, Mrs. Westfaling. Second prize, Grimes's Privateer, T. B. Parkyns, Esq. Third prize, Purdleton's Smiling Violet, T. B. Parkyns, Esq. Fourth prize, Taylor's Ploughboy, T. B. Parkyns, Esq. Fifth prize, Popplewell's Conqueror, T. B. Parkyns, Esq. *White Edge*: First prize, Taylor's Glory, Mrs. Westfaling. Second prize, Hughes's Pillar of Beauty, Colonel Money. Third prize, Cox's Pillar of Beauty, T. B. Parkyns, Esq. Fourth prize, Hannington's William Pitt, Colonel Money. Fifth prize, Taylor's Incomparable, Mr. Purchas. *Selfs*: First prize, Redman's Metropolitan, Mrs. Westfaling. Second prize, Nicholson's Venus, Colonel Money. Third prize, Bury's Lord Lee, Colonel Money. Fourth prize, Flora's Flag, Mr. Reynolds. Fifth prize, Derry's Lord Crotchley, Colonel Money. *Alpines*: First prize, Seedlings, Miss Trusted. Second prize, Jarmsed's Lady Duncan, Colonel Money. Third prize, *Hyacinthus*, T. B. Parkyns, Esq. Fourth prize, Grande Présence, Colonel Money. Fifth prize, Lord of the Manor, T. B. Parkyns, Esq.

Polyanthuses. *Dark*: First prize, Seedling, Mrs. Westfaling. Second prize, Pride of Archenfield, Mrs. Westfaling. Third prize, Tantarara, Colonel Money. Fourth prize, Nicholson's Bang Europe, Mrs. Westfaling. Fifth prize, Park's Nelson, Colonel Money. *Red*: First prize, Man of Ross, Seedling, Mrs. Westfaling. Second prize, Bresse's Seedling, Mrs. Westfaling. Third prize, Dudley and Ward, Mrs. Westfaling. Fourth prize, Seedling, Mrs. Westfaling. Fifth prize, Seedling, Mrs. Westfaling.

Hyacinths. *Blue Double*: First prize, Mareschal de France, Mrs. Westfaling. Second prize, Majesteuse, Mrs. Westfaling. Third prize, La Pourpre Royale, Mrs. Westfaling. Fourth prize, Globe Terrestre, Mrs. Westfaling. Fifth prize, Louis d'Or, Mr. Reynolds. *Red Double*: First prize, L'Honneur d'Amsterdam, Mrs. Westfaling. Second prize, Rose

Surpassante, Mrs. Westfaling. Third prize, Hugo Grotius, Mrs. Westfaling. Fourth prize, Flós Sanguínea, Mr. Reynolds. Fifth prize, Cramoisi Royal, Mrs. Westfaling. *White Double*: First prize, Og Roi de Bashan, Mrs. Westfaling. Second prize, Groot Vorst, Mr. Reynolds. Third prize, Duc de Valors, Mrs. Westfaling. Fourth prize, Sphèra Múndi, Mrs. Westfaling. Fifth prize, Sultan Achmet, Colonel Money. *Yellow Double*: First prize, Ophir, Mrs. Westfaling. Second prize, Soleil d'Or, Mr. Reynolds. Third prize, Duc de Berri, Colonel Money.

Plants. Stove or Greenhouse: First prize, Cactus speciosa, Mrs. Westfaling. Second prize, Célsia, John Cooke, Esq. Third prize, Corræa speciosa, Mrs. Westfaling. Fourth prize, Acacia armata, John Cooke, Esq. Fifth prize, Epacris grandiflora, John Cooke, Esq. *Hardy*: First prize, Pæonia Moultan Banksia, Mrs. Westfaling. Second prize, Erica australis, Miss Trusted. Third prize, Double Jonquil, Mrs. Westfaling. Fourth prize, Cheiranthus Cheiri fl. pl. rubro, Mrs. Webb. Fifth prize, Turban Ranunculus, Mr. Reynolds.

Dessert Apples. First prize, Brandy, Mrs. Platt. Second prize, Seedling, T. B. Parkyns, Esq. Third prize, Morning Pippin, Mr. P. Lumsdaine. Fourth prize, Gunsmill's Russet, Mrs. Lloyd. Fifth prize, Golden Harvey, Mrs. Platt.

Sea-kale. First prize, Mrs. Westfaling. Second prize, C. B. M. Johnson, Esq.

Cucumbers. First prize, Mr. Reynolds. Second prize, Mr. Reynolds. Third prize, Mr. Reynolds.

Broccoli. *White*: First prize, Charles Biss, Esq. Second prize, K. Evans, Esq. Third prize, John Cooke, Esq. Fourth prize, T. H. Symons, Esq. *Brown or Purple*: First prize, Charles Biss, Esq. Second prize, John Cooke, Esq. Third prize, John Cooke, Esq. Fourth prize, John Cooke, Esq.

Cabbages. First prize, Mr. T. E. Jones. Second prize, K. Evans, Esq. Third prize, T. E. Jones. Fourth prize, R. Compton, Esq. (*Hereford Journ.*, April 30.)

Cambridgeshire Horticultural Society.—We have before us the first, second, and third *Reports* of this Society, which was instituted on the 10th of March, 1824, and now forms one of the most respectable of our provincial societies. The third *Report*, which is dated March 30. 1827, states, that the number of members admitted within the past year is one third more than in the year preceding; and that the funds have increased in as great a proportion. The Committee of the Society have, in the true spirit of a useful institution, "endeavoured to increase the number of exhibitors, by proposing rewards for a much greater number of fruits and flowers than has appeared in any former list; and with a view to meet the case of small growers of flowers, the Committee have, in many cases, proposed prizes for single specimens. As one great object of the Society is to improve the market-gardener's produce, the Committee have also turned their attention to the introduction of esculent vegetables at the shows.

"As it would be manifestly impossible, from the financial circumstances of the Society, to award prizes for every article worthy of notice, it was resolved, in 1826, that the fruits, flowers, and vegetables, to which prizes were not awarded, be arranged, in order of merit, in the discretion of the judges. This regulation has ever since been acted upon; and there can be no doubt that the results will be highly satisfactory, especially to those whose exhibitions might not otherwise meet with the public notice and approbation of the Society. It is likewise conceived that this arrangement will hold out a strong inducement to many to become exhibitors, who might otherwise be deterred from contributing to the shows, under an apprehension that they should not obtain the prizes, and consequently that no notice would be taken of their productions.

"The Committee have great pleasure in announcing, that the Rev. R. Lascelles, of Duxford, has proposed to offer two half-guinea prizes, awarded to him for carnations at the show in July last, to any two cottagers living in Cambridgeshire, and not receiving parochial relief, nor being practical gardeners, one of whom shall, at the August show in 1827, produce the best carnation; and the other the best plate of gooseberries, at the same show; both being in their own possession, and of their own growth, and cultivated for six months previous to the exhibition; and to be certified as such by a member of the Society.

"There cannot be a question that by this means great encouragement will be given to horticultural pursuits amongst our poorer neighbours; and that an occasional repetition of such liberal conduct will, in no slight degree, contribute to maintain a spirit of independent feeling on the part of those who may fall within the contemplated benefit. The Committee, therefore, the more strongly urge those who feel an interest in bettering the condition of cottagers, to follow the excellent example of the gentleman above mentioned.

"The Committee deem it right to record that the thanks of this Society were publicly voted and presented to Mr. Lascelles, at the general show in December last, for his liberal and considerate attention in the encouragement which he has given to promote the cultivation of gardens by cottagers."

In the second *Report* notice is given that a form of certificate, for those who obtain smaller prizes than medals, such as small sums, or books, seeds, &c., is in preparation; and in the third *Report* it is stated to be completed. The idea is good: we should think a letter, with a handsome vignette, such as a cottager might frame; or, what would be better, a vignette and letter, framed and glazed to his hand, would be a gratifying prize to such persons; it would form an honourable part of ornamental furniture for the cottager's room or the gardener's shed.

The Society give medals for communications, some of which have been published in the *Transactions of the London Horticultural Society*, and show equal merit to any that have appeared in that work. A library is also commenced, which, among other books, contains the *Transactions* and other publications of the Horticultural Society of London, presented by the Society. We are persuaded there are few ways in which these *Transactions* could be disposed of, so as to do more good than they will in the hands of the practical members of provincial societies. A very likely means for a society to do good is now and then, without neglecting general objects, to direct their attention powerfully to a single point. We are anxious to direct the attention of this, and every other horticultural society, to the subject of winter salading; and especially to raising blanched succory, on a large scale, and bringing it to market at such a price as could be afforded by every one who now buys potatoes and cabbages.

In the *list of prizes* for 1828, the Society's silver medal, a guinea and a half, 15s., half a guinea, and 7s., are offered for thirteen articles to be shown in March, twenty-one to be shown in April, twenty in May, nineteen in June, twenty-six in August, twenty-two in September, ten in October, and twelve in December. The fruit is to be weighed by troy weight.

Chelmsford and Essex Horticultural and Florists' Society, March 21.—At an open Committee of this Society, held to elect officers, and to arrange the business of the Society for the ensuing season, Dr. Forster was in the chair; and after a favourable report of the increase of the funds of the Society, he addressed the meeting as follows:—"Gentlemen, Since our last meeting an event has occurred which will be much regretted by men of science throughout Europe, but particularly botanists; I allude to the death of the president of the Linnean Society of London, Sir James Edward Smith, a man eminently distinguished through life for his unremitted atten-

tention to natural history in general, and his indefatigable endeavours to promote botanical science in particular. It was only when we last assembled, about six weeks ago, that we elected him our honorary and corresponding member, and this day I have to record to you his decease. Since our last meeting I am happy to congratulate the Society upon many new and most respectable names, which we have this day to record among our members. [Here the new names were read, and Dr. Forster then resumed.] It is now time that I should say something of the prospects of the Society. We have a large accession of members, and consequently an increase of funds; but *have we already a corresponding augmentation of plan, an extended object of research, and a better arranged scheme for the execution of that object?* This is the question which I propose for your consideration to day. We are met now to arrange the meetings for the *show of flowers*; but we have already declared a more extensive object to be part of our plan; namely, the cultivation of the more immediately useful objects of horticulture. The culture of the garden, from the remotest antiquity, has always blended the twofold objects of ornamental botany, and the cultivation of medicinal and culinary plants. Botany was first cultivated in this part of Europe by the religious orders in their monastery gardens. The travelling friars and pilgrims of the mendicant orders, introduced the greatest number of new plants; and by their knowledge and popular application of medical botany, they laid the foundation of our modern Pharmacopœias. Early in the sixteenth century the followers of St. Ignatius, of Loyola, a society eminently distinguished for the intelligence, energy, courage, and pious character of its members, and for their zeal in the pursuit of every useful invention, penetrated the most dangerous and inhospitable regions of the earth, and brought back into civilised Europe numerous new, scarce, and useful plants, and converted their juices into medicine for the use of the poor; a trace of which singularly instructive part of the history of botany may be still found in the popular names of plants, such as *Jesuit's bark*, *St. Ignatius' bean*, *Monk's rhubarb*, and numerous others, which served to mark out for our imitation, the attention paid to the *useful* part of botany by all those early cultivators of the flower-garden." Dr. Forster here illustrated the subject by numerous instances, and detailed the history of the introduction of various particular plants into the country, which, however, are only interesting to the botanist, and which we cannot find room to report at length.

Mr. Howard rose and made some very apposite remarks on the horticulture of the period alluded to, and a protracted discussion followed, of a miscellaneous nature, on the antiquity and origin of gardening, and on the useful and stupendous energies of the monks of the middle ages, of which no notes were taken, as the Chairman, at the suggestion of a gentleman present, observed, that, as it was getting late, it would be better to go at once into the business of the meeting.

Mr. Wicks, solicitor, then proposed, and Mr. Cowland seconded it, that Dr. Forster be elected president for the ensuing year.

Dr. Forster then rose, and having returned the Society thanks for the honour conferred on him, observed, that from the nature of the medical profession, and his liability to be called away, he could not promise to the Society a regular attendance, but he would do his best, and whenever he had time, would endeavour to make up by personal exertion what he felt conscious he wanted in ability, to further the useful objects of the Society. He added, that he trusted, therefore, he should meet with cooperation on the part of other gentlemen who had done him the honour of adding their names and influence to the Society, since he had become a member of it. He was not one of those pilots who liked the too common plan of lying on one's oars and whistling for wind. The man who calls on Hercules should put his own shoulders to the wheel. He felt himself pledged to act

on this principle to the respectable gentlemen who lent their pecuniary aid and names to the Society, but he could not do it alone, and hoped that all members would do their part.

It was then agreed that the show of prize auriculas and cucumbers should take place on Tuesday, the 22d of April next, and that, in future, prizes for fruits should accompany those for flowers, and should be arranged at a subsequent meeting. (*Chelmsford Chronicle*, March 28.)

The *Chelmsford and Essex Horticultural Society* held a Meeting on April 22d, at the Shire Hall, Chelmsford. The interior as well as the exterior of the building was ornamented with the natural productions of the season. The Grand Jury Room, which was appropriated to the occasion, was filled with exotics from the neighbouring green-houses, a compliment which we are sure the Society will always be proud to acknowledge. It is but justice to state, that those furnished by Mr. Marsden, of this town, and about forty pots of auriculas, from Mr. Cowland, were most deservedly admired. The Society having met, T. Forster, M.D., of Boreham, as president; Mr. Millard of Ilford, Lieut. Spurrell of Broomfield, and Mr. Joseph Harris of the same place, as judges; the prizes for the auriculas were awarded as follows:—

First prize, Lady Mildmay, Kenyon's Ringleader, Laurie's Glory of Cheshunt, and Millard's Goliath, Mr. Joseph Saltmarsh. Second prize, Rider's Waterloo, Wood's Lord Lascelles, Birch's Amethyst, and Taylor's Plough-boy, Mr. Charles Harris. Third prize, Salter's Garland, Millard's Somersetshire Hero, Wild's Lord Bridport, and Townsend's Lady Duncan, Mr. George Howard.

Two cucumbers, very fine fruit, were shown, the produce of the gardens of the Rev. Dr. Penrose, of Writtle, and John Disney, Esq., of the Hyde, Ingatestone; but, as the rules required three competitors, the prize was not awarded to either. The Rev. Thomas Brooksby, of West Hanningfield, gratified the Meeting with a remarkably fine broccoli, which weighed upwards of five pounds. The visitors were more numerous than at any former exhibition, and included many of the first families in the neighbourhood. The band of the West Essex were very kindly permitted to attend on the occasion, and added much to the amusement of the company. After the business of the day, a considerable number of the members of the Society retired to the Saracen's Head inn, and partook of an excellent dinner provided by Mr. Lake, when the evening was spent in a manner gratifying to all present. The 20th of May, we understand, is fixed upon for the show of tulips, in the same room. The expenses for attendants on these occasions are considerable; but which the small fee of 6d. on entrance would materially assist to liquidate, and which, we think, could not be objected to. (*Chelmsford Chronicle*, April 25.)

Broomfield Florists' Society, April 21. — At the Annual Meeting of this Society the show of auriculas was allowed to be of a surpassing description. Lieutenant Spurrell presided. The judges were Mr. Millard of Ilford, and Mr. Harris. The first prize was awarded to Mr. Pearson of Writtle, for Millard's Goliath and Page's Duchess of Oldenburgh. The second prize to Mr. Spurrell, for Coldham's Blucher and Grimes's Privateer. Mr. Whitaker exhibited two excellent specimens of Millard's Nabob and Grimes's Privateer. The Broomfield Society has of late very much increased in number and respectability, and the emulation of its members entitles them to the particular notice of the lovers of so beautiful and scientific a pursuit. (*Chelmsford Chron.*, April 25.)

ART. VI. *Calls at Suburban Gardens.*

WHITE KNIGHTS, July 26.—The gardens here are shown to strangers at the rate of a guinea for a party not exceeding five. To those who can distinguish what is rare from what is common in trees and shrubs, these grounds are well worth seeing; but those who look for the beauties of landscape-gardening, or the polished picturesque of English pleasure-grounds, will be disappointed. In this point of view, indeed, nothing can be duller and more stupid, than the walled parallelogram containing the hot-houses and more rare plants, near the house at White Knights; but in the wood, in a distant part of the park, there are some very pleasing and picturesque scenes, which, though so like nature, owe their beauty chiefly to art: the best of these is a small piece of irregular water, in a glade, in an old wood abounding with very fine oaks and beeches.

In the enclosed gardens near the house are a number of very fine species of American trees, and particularly a lofty wall covered with *Magnolia grandiflora*, which keeps more or less in flower all the summer; a standard of *M. macrophylla*, another of *M. conspicua*, and a number of *M. acuminata*, *glauca*, and *purpurea*. Azaleas and rhododendrons are very numerous; and, indeed, there is hardly a plant which, ten years ago, could be procured from Lee's nursery, which is not here in a thriving state, with the exception of a few which the duke is said to have carried with him to Blenheim. There is a Linnean arrangement of herbaceous plants, of a limited extent, and a moderate collection of roses.

The garden in the wood is formed of open glades, in which the principal features are, the piece of water already mentioned, a small valley containing a grotto and fountain, a long straight walk, covered with trelliswork and overgrown with ivy, a small vineyard suffering from the hares and rabbits, and an extensive border of roses and American shrubs.

We were surprised to find these gardens so neatly kept, considering the wretched circumstances in which every thing connected with the Duke of Marlborough's property is said to be entangled.

Frogmore Gardens, near Windsor; Her Royal Highness the Princess Augusta. July 28.—About twenty-three years ago, the grounds here were laying out under the direction, as we were informed at the time, of Major Price, a near relative of the celebrated author of the *Essays on the Picturesque*. The situation is low, and naturally moist; it was rendered interesting by a very long, winding piece of water, by some artificial inequalities of surface formed of the excavated earth; and by extensive planting. The trees and shrubs seem now to occupy the greater part of the surface, and the water being very extensive, stagnant, and not very free from aquatic plants, the situation appears to us as unhealthy a one as could well be chosen for a residence.

There are a number of ornamental buildings of different kinds, which occur in the extensive walks, but the great defect to a stranger is the want of prospect. The shrubbery is too old to have the freshness of youth, the shrubs in general of sorts too common to have the beauty of rarity, and the effect of the whole spoiled by the prevalence of large elm trees. Perhaps we may be writing under erroneous impressions, but, on the whole, we cannot help considering Frogmore as a remarkably dull place. The gaiety of a flower-garden on the lawn near the house, exotic timber trees, rare shrubs, and curious buildings, is almost all that can be done for such a situation.

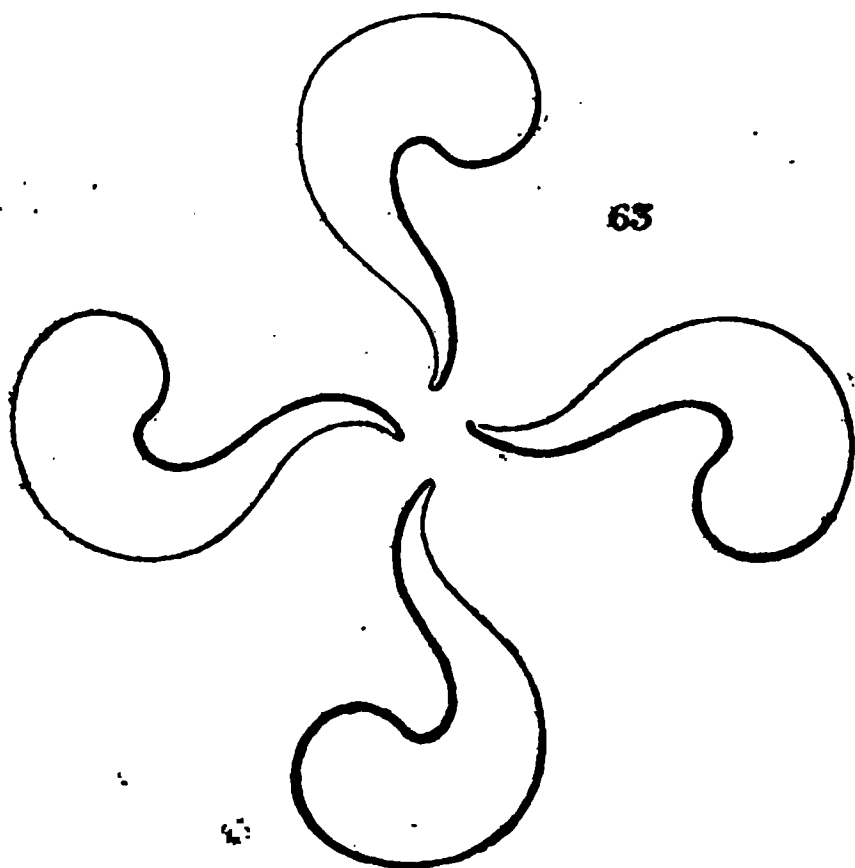
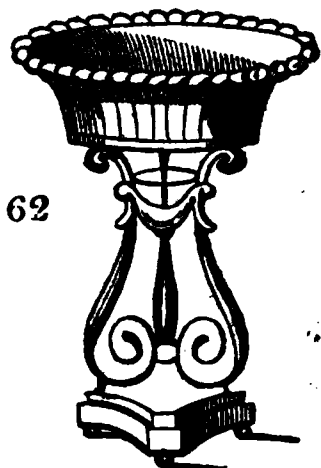
The time to see Frogmore to most advantage is about the end of May, when the rhododendrons and other shrubs and trees are in delicate foliage, and covered with flowers.

In the walled garden scenery, we noticed melons grown on a bed of dung in the open air, under hand-glasses, in the manner of cucumbers; the fruit, Mr. Ingram said, was considered of higher flavour than that grown under glass. He has promised that we shall hear from him on the subject.

The mode of preparing strawberries for forcing, recommended by Mr. Mitchinson (Vol. II. p. 390.), has been practised here for several years. Mr. Ingram highly approves of it; but, instead of inserting three runners into a pot, he inserts only one runner into a pot of the smallest size. The pots are not plunged, but, in a fortnight from the time the small stones are laid on the runner, the pot is found filled with roots, and the plant is shifted, with the ball entire, into a pot of a larger size. The small pots not being plunged saves some labour, but much depends on giving them water in dry weather. The rapidity with which strawberry plants grow, when so treated, is truly astonishing; and Mr. Ingram agrees with us in thinking, with Mr. Mitchinson, that this practice is decidedly preferable to any other hitherto in use. Mr. Ingram's mode of wiring walls, and of grafting geraniums and passion-flowers (Vol. III. p. 13. 102.) has been already mentioned; and we have only to bear testimony to his excellent crops, and to the good order in which every thing at Frogmore is kept, notwithstanding a seeming want of assistance.

We noticed in the woods here, a peculiar kind of succulent leafy growth protruding from the points of the shoots of the yew trees, which seems not to be the effect of insects, but a true vegetable disease. After these growths have attained about an inch in length, they wither and die off. Mr. Ingram had never seen them anywhere else; but we have since observed them at the Duke of Devonshire's, at Chiswick.

Royal Lodge, Windsor. July 28. — Since we last saw this cottage, in 1819, slates of grey schistus have been substituted for the thatch of the roof; the public road has also been removed to a greater distance, and several acres added to the lawn. The grounds are not unpleasing, and the young trees are gracefully scattered about; and what adds to every thing, the whole place is in the very highest order and keeping, by Mr. Mitchill, a most vigilant and judicious gardener. The spot on which the cottage is built, is in no way marked by nature; the building may be said to stand in an open forest glade,

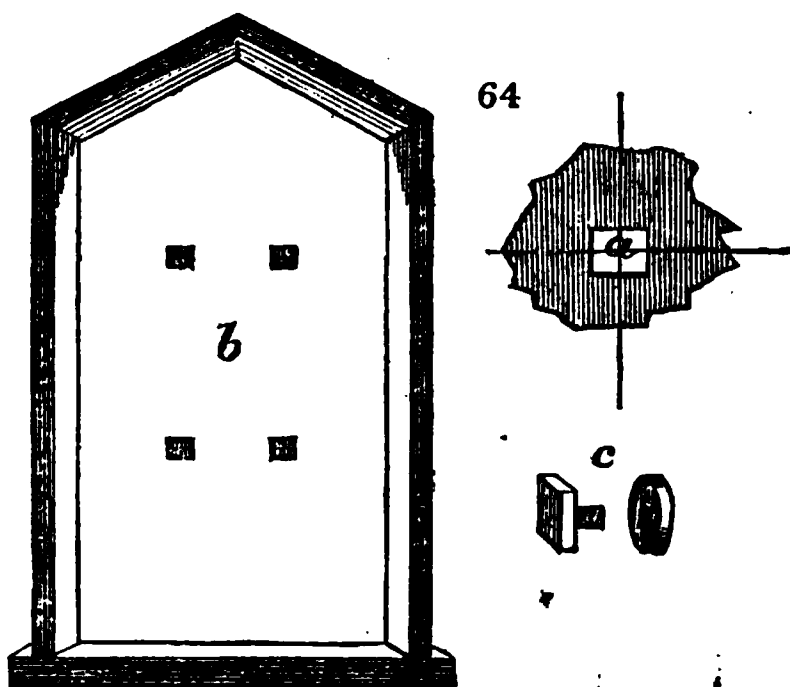


which has been polished by art, and ornamented with numerous masses, patches, groups of exotics, and scattered roses and flowering plants. The living rooms have the comfort of an extensive veranda, furnished with pots of flowers in curious stands (*fig. 62.*), and with a large conservatory richly decorated with geraniums and festoons of Cobæ'a, and heightened in effect by lamps, and by singing birds flying about as if in a state of nature. Two covered ways of trelliswork and ivy, favourable to privacy and seclusion, lead from the extremities of the cottage.

The flowers on the lawn are distributed in masses, in the manner of Dropmore, but, as it struck us, with less taste and judgment. The masses are frequently very handsome of themselves (*fig. 63.*), but they are not always fitted in to their situations in such a way, as that they would be pronounced wrongly placed, if moved either backwards or forwards, or to the right or left. This is the undoubted test of right and wrong, in the disposition of these masses; because it is only by such a disposition, that any thing like effect or character can be produced. The common way of ornamenting a lawn with clumps or groups of flowers, is, to scatter over it a number of circles, ovals, or other geometrical figures; or, perhaps, of irregular-sized, wave, or angular-lined shapes. But the effect of these masses depends far less on their shapes individually, than on their connection or relative situation. Most people distribute such shapes pretty regularly over the surface to be ornamented, the consequence of which is, sameness or monotony of appearance; whereas, were the figures or masses more numerous at one place than another, in some places very close together, and in others very widely apart, what painters call effect would be produced; *i. e.* there would be broad, irregular glades of lawn, and broad, varied, and irregular masses of flowers. Attention to these particulars alone will produce what is called effect; a farther attention to the walks, buildings, trees, architectural ornaments, water, rocks, &c., on or connected with the lawn, will produce character, or what may be called distinctive effect. The lowest degree of distinctive effect is that of fitting in shapes of groups or beds to particular angles or turns of walks, buildings, fences, or trees. Character may be created by forming pieces of water, artificial hills and hollows, rockwork, buildings, and statues. What is frequently very displeasing in pleasure-grounds is, the existence of all the attributes of character, as buildings, water, statues, &c., where the previous and subservient beauty of effect has not been attended to. This, in garden scenery, is like what knowledge without refinement is in society; the reason why it occurs so frequently is, that more minds are capable of being struck by character, than of being charmed by effect, and that most people pay greater deference to wealth than to refinement. It may be some consolation to gardeners all over the country, to know that the most select garden of their king has the faults common to most of those of his subjects.

ART. VII. *Architecture.*

FIXING Glass in Sashes without the aid of Astragals.—The frame should be of cast-iron, stone, or wood that will not shrink; then wherever the angles of four squares come in contact (*fig. 64. a*), join them by a copper rivet and nut (*c*); the result in a window of nine panes of plate glass will only be four dark spots, square or round at pleasure, and not exceeding an inch in diameter (*b*). This elegant invention is by John Robison, Esq. F.R.S., Edinburgh, and communicated by him to Dr. Brewster's *Journal* for January, 1827. To the windows of rooms



in the country commanding extensive views, and to those of painted glass, it may be applied with admirable effect.

The Use of Lime in Mortar is to fill up the hollow spaces or vacuities between the grains of sand, and to cement them together, thereby forming a kind of artificial stone. To add any more lime than is sufficient to fill up these spaces seems to be useless, and to add much more must weaken the mortar; but, if too little lime be used, there will be cavities left between some of the grains of sand, and the mortar will consequently be short or brittle: therefore, when we cannot ascertain the best proportions of lime and sand, it is better to use too much lime than too little. (*Waistell on Agr. Buildings*, p. 52.)

ART. VIII. *Domestic Economy.*

MANUFACTURE of Kirschwasser. — The inhabitants of the Black Forest manufacture this liquor with all the care that art, guided by science, can employ, and with success. This is their process: —

When the cherries are for the most part ripe, they collect them one by one with the hands, and reject all those which are over-ripe. In this state they do not take those cherries which have separated from the stalks, but only those which remain on the branches: they also reject all those which have become rotten.

After having thus collected a large quantity, they commence their operations. They crush the fruit, previously freed from the stalks, in a wicker basket, made a little concave, and placed over a tub, which is a little smaller than the basket: the expressed juice falls within it. They weigh the marc, and bruise a fourth part only of it, which, with the juice, they throw into a cask, cover it, and let it ferment.

When the fermentation is perfected, they uncover the cask, and, opening a cock at the bottom of it, receive the clear liquor in a basin, and instantly convey it to the alembic, which is formed in the well known manner, but is heated by steam. Those manufacturers, indeed, who have the highest reputation, distil in alembics made of tin. They thus take all the precautions necessary to obtain a liquor of a good flavour, and which the connoisseurs can readily distinguish from all others which are sold under the same name.

It is important not to bruise too large a quantity of the kernels. We know that bitter almonds contain a large quantity of the hydro-cyanic (prussic) acid, which, in a state of purity, is the most violent poison known. For this reason, we think that when the liquor contains too much of it, it must rather be prejudicial to those who drink it. The bitter taste of the almond is agreeable, taken in a small quantity; but when the dose is too great, the animal economy is grievously affected. This is the reason why the good manufacturers of this liqueur only bruise a fourth part of the marc, and would not employ a fourth part of that weight of almonds, but only an eighth.

It is certain that when the kirsch is well made, it has no acrid or empyreumatic flavour; and, when old, it is not only pleasant to drink, but it possesses also the valuable property of helping the digestion, and warming the stomach by its spirit. Physicians recommend this liqueur in indigestion, and as a preservative against certain maladies. Experiments, a thousand times repeated, have proved that fruits are preserved in brandy: they are decomposed and mollified in the kirsch.

The valuable qualities which it is known this liqueur possesses, beyond contradiction, increase the interest which every one must feel in seeing

that it is prepared with every possible care, not only to free it from the ill taste which it is well known it too often possesses, but also, and which is more important, from the deleterious principle which it contains when not carefully made. (*Gill's Technological Repository*, Dec. 1827, p. 234.)

ART. IX. *Retrospective Criticism.*

HOT Water and Steam compared. — Sir, I am sorry I have not had the opportunity of communicating to you, sooner, my opinion on the new system of heating hot-houses by hot water, displayed in No. X. of your Magazine (Vol. III. p. 196.), and in that, together with succeeding Numbers, extolled above every system of heating hot-houses heretofore known or practised. You would have received my opinion of that system sooner, had I had the opportunity of sooner investigating its comparative merits. The water system, you think, is calculated utterly to exterminate steam, as a medium of conveying heat, from all gardens where it is now thus employed, and to erect an invulnerable and eternal barrier against its future admission. My opinion of the plan is, that it is good, and one with which many apparatuses for heating by steam can bear no comparison. I am happy to see the invention of such a system, and, much more so, to see the eagerness with which it is adopted. The former of these facts evinces the rending of that veil which has for ages overspread the minds of men; and the latter proves the existence and increase of that spirit which alone can perpetuate the effort to tear, completely, that veil from every understanding; I mean a spirit to patronise a real, a meritorious improvement.

Yet while, from its own intrinsic nature, I hail the water system as an improvement of considerable merit, yet I am bold to assert, that it is far from being competent to the stupendous task you have assigned it. To behold it as an improvement in the system of forcing is just; yet I cannot countenance your unwarrantable degradation of steam, when contrasted with it. The water system you not only elevate to the very heavens, but steam, in every possible mode of its employment, is, as it were, doomed to everlasting perdition; and this, too, not with a limitation to past modes of its adoption and use, but this is done, without restriction, to all steam systems, past, present, or to come. Sir, be not so hasty; steam is powerful, its properties amazing, and, if subjugated to right principles of action, as a medium of conveying heat, its rival is yet unknown.

Your answer to the question, p. 254. No. X., is, "We have little doubt of hot water superseding both steam and smoke-flues, certainly steam." But, I presume, I have a much firmer basis for the assertion, that steam will be employed in gardens as a medium of conveying heat, when smoke-flues, and the present eulogised water system, exist only in memory. No, Sir; to accomplish this, the water system is seriously defective in its fundamental principles; and I have no doubt in asserting, that its downfall, and utter extermination from the forcing department, beneath the progressive and all-subduing influence of steam, are as certain as its present existence.

But, on page 191., I find a much more unwarrantable assertion than the above, thus: — "At all events, we are certain of this, that steam will never again be employed in gardening, as a medium of conveying heat." Sir, suffer a man whose painful yet victorious experiments have taught him better things, to tell you, that this your gigantic confidence must expire, and that steam will be thus employed, when your bones and mine are not only consigned to the dust, but when, in their amalgamation with new

bodies, they have emigrated from the grave, and become scattered, in a gaseous state, to the four winds of heaven.

Not satisfied with the above unjust sentence on all steam systems, I find you urging their instant execution thus : —“ If all those who now employ it in that way do not adopt the water system, so much the worse for them.” (p. 191.) If so, farewell ! all toil, adieu ! all effort ; further experiments and recondite thoughts on steam are useless, yea, pernicious, as they can only harass, bewilder, and mislead ; the water system stretches forth an unconquerable arm over all such investigations, and puts to everlasting silence the humble claims of steam, in every possible mode of its employment. But what, Sir, would be your opinion of the assertion, that all who now convert their steam-boilers into water-boilers, and their steam-pipes into water-pipes, and thus submit to the unqualified claims of the water system ; if all these do not abandon the object of their precipitate choice, and retrace their steps from water to steam, they must, with the water system, carry the galling chain of conscious inconveniences and loss. But this you never expect to witness, whilst I am confident it must take place. You think “ steam will never again be employed in gardening, as a medium of conveying heat ;” and I think, where reason reigns no other medium can be long continued in use. You think that if all do not adopt the water system, so much the worse for them ; but I am certain, that for me to abandon steam for the water system would be the very essence of folly. Had your water system been, indeed, not only superior to every mode of employing steam heretofore made public, but also superior to every plan that lies within the confines of possibility, then your assertions would have been justifiable ; but this is not the case. Or had these been confined to the common mode of using steam, your opinion and mine would have perfectly accorded ; for I am fully convinced that, whether continued or not, there are now in use many modes of employing steam, that are seriously defective in those advantages which ought to repay the expense of their establishment.

Notwithstanding, your indiscriminate extermination of all steam systems will not stand ; and my advice is, that henceforth you speak with more caution. For, Sir, supposing a system of heating by steam could be presented to your notice, which would demand little more than one ton of coals where your water system would demand two, and if this system were equally simple and safe as your water system ; if, also, it afforded a more congenial and more extensively applicable heat than the water system can give ; and if, likewise, this steam system would maintain as high and as congenial a heat in all departments heated thereby, for 24 hours after leaving the fire, as your water system would do for 12, would you then think that “ if all do not adopt the water system, so much the worse for them.” Yet, perhaps, you think that a steam system of this nature never did, nor ever will, exist ; and I trust your confidence in the merits of the water system is such, as will leave no hesitation in proving its superiority over steam, in that way which, in my opinion, is of all others the best calculated to end in a just decision of the point. The way in which this would be best accomplished is as follows : —

Let both parties appoint each a house, heated on the separate principles, for strict observation, the next forcing season. I will give in a house heated by steam, on the principles I advocate ; and you, one heated by hot water. Let a proper system of observation be then agreed upon, and, in due time, let the observations of each day, week, and month, be communicated to you for publication in your Magazine.

An experiment of this nature, on a subject of such importance, could not fail to be both useful and interesting to many of your readers. In fact, it is the very object which numbers are now desiring ; for so many novel schemes have of late been put into practice, and all, in the eyes of their

inventors, the best ever known, that the inexperienced are placed in such a dilemma, that they know not how to act, or which system to prefer, if even they wish to alter their plans; and when to this it is added, that so many plans have been adopted, without the anticipated success, no wonder that many have yet their minds, as it were, riveted to smoke-flues, with all their losses and inconveniences. As an antidote for all this, the above experiment is urged; and I would not limit this experiment to the steam system I advocate, and the water system only, but, if any other system of steam, water, or smoke-flues be considered of distinguished merit, let such also enter the list. In an experiment of this nature, the opinions of men will be utterly abolished; it will not be said, such a man, or such a class of men, are of opinion that such or such a system is the best, but truth itself will appear, and the positive merits of each system stand on the broad basis of unyielding matter of fact.

Trusting, Sir, that you will discover so much utility in an experiment of this nature as will lead to its actual execution, I conclude with stating, that if the desired answer be returned to this in the next Number of your Magazine, before the publication of the Number following you will receive from me an account of the place where, the person by whom, with further particulars how, and to what extent, the above experiment shall be conducted. Yours, truly, — *J. H. Rotherham, April 12.*

Mr. Sweet's Opinion as to the Permanency of Hybrids.—Dear Sir, In your last Number of the Gardener's Magazine (Vol. III. p. 445.), you mention it as your opinion that *Magnolia Soulangeana* will not remain permanent, but will return into *M. yulan*. If it is really of hybrid origin, there is no more likelihood of its changing, than of any one species changing into another. I believe I have had as much experience in hybrid plants, and have raised as many sorts, as any person whatever, and with them I have tried all sorts of experiments; and I am quite certain that a real hybrid production will remain as permanent as the most distinct species whatever; and that the seeds from it also, where perfect, and the flowers fertilised by their own pollen, will produce plants as true as will the most distinct species, and with no more variation than is observed in other species. Those people who pretend that they will return back in time to one of the original species, speak only as they wish, without knowing any thing of the matter; and I have not the least doubt in my own mind, but that a great part of the plants from tropical countries, where insects and the humming-birds are so plentiful, are of hybrid origin. How is it possible to be otherwise, as they are continually flying from flower to flower and from tree to tree, carrying the pollen from one to the other? Besides, in a great number of plants (more, I believe, than otherwise,) the stamens are dropped or have shed their pollen before the stigma is far enough advanced to receive it; so that they are obliged for their pollen to some other flower; and it is nearly as likely to be from a distinct species, as from one of its own. This is the case with the greater part of the species of *Pelargonium* and *Amaryllis*, and many other genera; which accounts for so many natural mules, and for their being frequently raised in our gardens without any trouble having been taken with them for that purpose: but where pains are taken to keep them shut up in a house out of the reach of insects, it is easy to get numerous very distinct mules; and at that time, while fertilising them with the pollen of other species, any person acquainted with it can say to a shade what colour the flowers will be, also the form of the leaves, and the habit of the plant; and what you may still consider more surprising is, that when a mule is produced from two very distinct species, its anthers frequently are all sterile, but the stigmas are generally perfect, and those flowers fertilised by the pollen of another species will produce perfect seed. The plants from those seeds will again become perfect, bearing anthers full of perfect pollen, and seeding of themselves as freely as any species whatever; so

that I consider a hybrid plant as good a species as any other, and Linnæus was of the same opinion; he even supposed, that at first there were only genera, and that the species have been all produced since by intermixing with each other. How can a plant be a variety, if it is permanent? It certainly must be a species, if a character can be found that specifies its difference from all others. The term species speaks for itself, whereas a variety must mean that the plant varies; it therefore cannot be permanent. This is the plan of distinction that I always follow and intend to continue. Others may do as they please, we have all our own opinions. I am, dear Sir, yours, truly, — *R. Sweet.* March 10. 1828.

Love lies bleeding and Prince's Feather are the most hardy of the annuals mentioned by your correspondent Matthias Sylvaticus, in p. 59., and not, as he alleges, among the more tender. You are aware that the leaves of these plants make a very good spinach; and I have no doubt that, if sown in the autumn when winter spinach is sown, they would stand the winter almost as well as that plant. — *B.* April 2.

Awning for a Tulip Bed. — Sir, Your correspondent, S. T. P., in recommending a cheap tulip awning (p. 53.), has certainly, in my opinion, gone rather too far in economy to honour his profession. His plan is by far too clumsy, rough, and ugly, to enable him, with prudence, to call himself a florist. In the first place, the brown shadow of the mats, occasioned by the reflection of light, will not contribute to the beautiful, delicate, and waxy appearance of this beautiful flower. Secondly, the forked stumps down the centre of the bed must have a very unsightly appearance. It must certainly be much darker than a canvass awning; and, as light is the cause of colour, any thing in any degree deprived of light must be also, in part, deprived of colour. Again, when he wants to look at his tulips, he says he pulls up his mats; and, by so doing, he must certainly expose them to the brilliant light. This light is much too strong for this flower, which requires a dull light, if I may so express myself. A canvass awning about rectifies the light to the proper hue for tulips; and there is as much difference between a tulip under an awning (but not mats), and one exposed to the brilliant light, as there is between a good flower and a bad one. I may mention that green baize, round the sides of a tulip awning, greatly contributes to the beauty of this flower. I am, Sir, &c. — *F. W. Smith.* Near Kennington Common, April 7. 1828.

ART. X. *Queries and Answers to Queries.*

CLEANING Hot-house Flues, and the Treatment of Tropical Exotic Plants in Stoves. — Sir, Among your very numerous and respectable readers and correspondents, I have no doubt but there will be found one practical individual who will be so kind to the numerous body of gentlemen and gardeners who use forcing-houses, either for pines or vines, as to answer these enquiries: —

From the bad construction of my hot-house flues, they are ever in want of cleaning from soot; and often at times inconvenient for the business of forcing, and almost always prejudicial to both flowers and fruit. A mason and his man Friday, with their dust and dirt, are at all times unwelcome visitors; all previous care and labour is put in jeopardy by their noxious dust, and even our hopes of future success are blighted by the disorder and delay they occasion. Is there no remedy for this?

Connected with this subject, allow me to mention another circumstance which has occurred to me, regarding the treatment of our stove plants. I had an opportunity, lately, of conversing with a friend of mine who had

been some time in Egypt; he observed, that the heat of the sun was so intense, that no one would have thought that any vegetable could have existed under it; yet, in the night, it is so cold, that blankets and thick covering are necessary to defend the soldiers in camp, or whoever are exposed to it. In the West Indies, also, very great difference of temperature is experienced between the day and night. Now, both these stations are the habitats of many of our stove plants; and it is but natural to ask, why it is thought necessary to give them, in our stoves, a warmer atmosphere than they are accustomed to at home; and why need we be at more expense in wasting fuel, to give more heat than such exotics require? It appears that nocturnal rest is necessary for vegetables as well as animals; and, probably, we may err in denying *that* which nature has intended. — *G. Feb. 21. 1828.*

We recommend the above enquiries and remarks to the consideration of our readers, and shall hope to receive the opinions of some of them on these subjects. In the mean time, we shall just state, for G's satisfaction, what occurs to ourselves by way of answer.

To facilitate the cleaning of brick-built flues, without at all disturbing the work within the house, the flues are continued through the walls against which they abut, both in front and at the ends. Slabs, either of Yorkshire or other stone, with a staple and ring, are made to fit the exterior apertures, and, when in their place, are bedded with mortar, so as to be perfectly smoke-tight. When the flues become foul, withdraw these stones, and the whole range of the flues is open, to be swept by a bush fixed to the middle of a long rope, by which it is pulled backwards and forwards. In this manner the flues are expeditiously cleaned, without going within the house, or soiling the plants; and, should any part of the flues be crooked, a flexible rod will easily reach it, and so cleanse the whole. Should, however, G., or any other proprietor, have much difficulty in constructing the flues in the way above described; or, when altered, should they be still imperfect, as devouring fuel without sufficiently heating the house; we would strongly recommend the new mode of heating by water, which is at once a safe, cleanly, and economical plan. Several tradesmen, whose names appear as our correspondents, will furnish estimates, with well authenticated testimonials, as to efficacy, &c. &c.

With respect to the opinion concerning the low temperature which tropical plants are subjected to, in their native climates, and the depriving of them, by our methods of cultivation, of that which seems intended for them by nature, a very few words may be added. We cannot deny that plants receive an annual as well as a diurnal rest, whether they require it or not. They are only subject to influences which surround them. It is difficult to say whether the different positions of the leaves of wing-leaved plants, so often observable in the day, as well as at night, are an effort for protection, or the languid cessation after the excitements of the day. Some plants grow most rapidly in the night; and many that are drooping all the afternoon recover at sunset, not to take rest, but to develope themselves with increased vigour.

But, however this may be, we must not forget that, from the moment we take one of these foreigners into our care, it becomes a new being. Our artificial management is very different from what it would receive in its native bed; we nurse it up, to answer the purpose we have in view regarding it; we may wish to see its flower, or enjoy its fruit; for this purpose we must "force as well as defend," and, therefore, cannot, and indeed *ought not*, to follow nature so closely as mere abstract reasoning might seem to direct or approve. In fact, one half of the art and mystery of gardening consists in correcting the exuberance, opposing the tendencies, and changing the qualities of almost all the plants we have in cultivation. — *J. M. for Cond.*

Construction of Hot-houses. — Sir, As the best mode of constructing and heating glass houses is a matter of the first importance in exotic cultivation, I shall be much obliged by your answering the following enquiries : —

In one of your late Numbers you observe that you approve of metallic houses, as admitting more light, but that Mr. Atkinson, and the managers of the Horticultural Society establishment, are of a different opinion. Will you have the goodness to inform us what their objections are, and how far you consider them to be well founded. Iron houses are said to be subject to great and sudden variations of temperature, owing to the rapidity with which the materials transmit heat, either internally, or externally, according to circumstances, so that while the sun's rays produce a scorching effect in summer, a great addition of fuel is required to keep up the temperature in winter. All the gardeners in my neighbourhood are decidedly against them; but a manufacturer of these houses, with whom I was conversing on the subject, asserted that the metallic surface exposed was too small to be likely to produce much effect, but that, if the fact were as stated, (which, however, he was not prepared to admit,) it must be attributed rather to the diminished quantity of opaque surface.

From the interesting article in your last Number, on heating houses, &c., by means of water, there can, I think, be little doubt of the superiority of that mode to all others; but, as the temperature of the water must be considerably lower than that of steam, I wish to know whether an increased quantity of pipe or reservoirs will not be necessary to heat the same space, and if so, in what proportion. Your opinion on these points will, I dare say, interest many of your readers as well as — *A Lover of Improvement. March.*

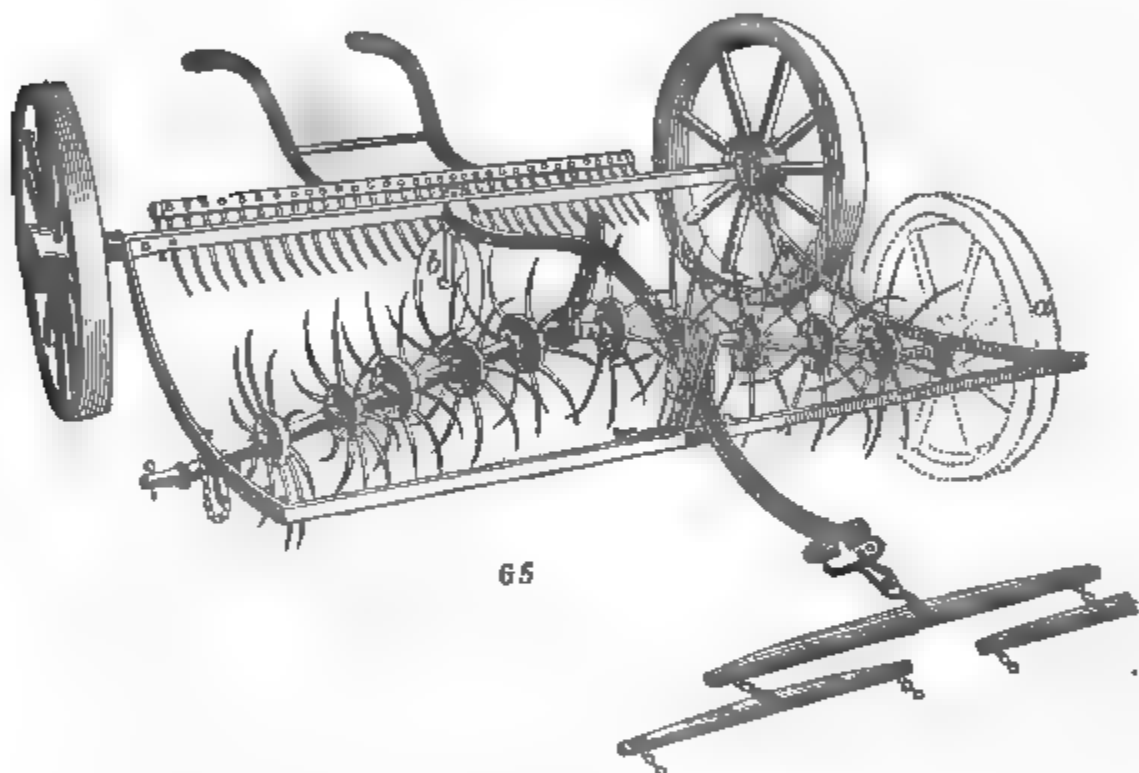
Our correspondent having stated both sides of the question, little more is left for us to do than to state that we decidedly prefer iron, notwithstanding all the objections that have been urged against it. These objections are founded on truth; but, for the very reason which has given rise to the main objection, namely, the excess of heat which is produced by the admission of so much light, we prefer the iron.

It is affirmed by some that iron hot-houses are not more durable than wooden ones, while they are much more expensive, both at first erection, and to keep warmed. Admitting that this were the case, we should still decidedly prefer a construction of iron, because money will overcome the other objections, but no human power can increase the light in a hot-house, otherwise than by increasing the transparency of the roof. Whoever can get access to the iron hot-houses at Syon (Vol. II. p. 107.), will have their doubts settled as to plants thriving in them. With respect to the proportion of pipe or reservoir necessary to heat any given volume of air, &c., we believe nothing has hitherto been determined on the subject. Mr. Tredgold, we understand, is now engaged in some calculations, having that and other objects in view, and he, of all the other engineers that we know of, is the most competent for such an undertaking, and for directing the construction of this department of gardening architecture. — *Cond.*

Black Italian Poplar. — Sir, I was surprised to see a remark from one of your correspondents (Vol. III. p. 410.), that the black Italian poplar, though of quicker growth than the Lombardy, is inferior in respect to timber. That the latter will hardly find a purchaser at any price, I know by experience. Of the black Italian I have no such experience, but have always understood the timber to be nearly, if not quite the best of the whole tribe. More than one of your correspondents will be glad to have this point settled by reference to some sufficient proof. I once had occasion to observe a curious circumstance in respect to *the propagation of the black Italian poplar*, to which I never recollect hearing of a parallel. I asked a neighbour for some cuttings of it, which he directed his gardener to prepare after the manner of the nurserymen; viz. by cutting shoots about the thickness of a thumb into lengths of about 2 ft. These I planted, as

directed, (aslant, and buried all but one eye,) most of them on a new-made sandy bank, some in a moist meadow; three or four dozen in all. Not one succeeded. Another gentleman in the neighbourhood had some of the same, and succeeded with two or three out of a great number. In the meantime, I planted in the same sandy bank some cuttings taken by myself from the very same trees; they were shoots rather slenderer than the others, and from 4 to 6 ft. long; I trimmed off the chief side twigs, but did not shorten the cuttings at all. I put them in upright, about 15 in. deep; there were about a score of them; *not one failed*; it is just three years ago, and their growth has been surprising. It was a mere random experiment, nor can I tell what to make of it; perhaps some of your correspondents can. I am, Sir, &c. — *Suffolciensis*. March 7. 1828.

Morton's Revolving Brake Harrow, in reply to B. D., who complains that this implement is not figured in the *Encyclopædia of Agriculture*. The truth is, it was hardly known at the time the first three parts of that work were printed. — It is a powerful and ingenious implement (*fig. 65.*), though



too expensive, we fear, to be much used. It is manufactured by the Messrs. Mortons, in Leith Walk, and may be had from them, or Weir of Oxford Street, London. When the implement is to be moved from one field to another, the large wheels may be brought forward (*a*), to support the tines from the ground, while the hind axle and the rake are supported by a castor or truck-wheel (*b*). In most soils, four horses and a driver and holder, are necessary to work this instrument; which, however, no good farmer will ever require the aid of, unless it be when entering on land which has been allowed to run wild.

Best Kind of Pine for general Culture. — Sir, I have to remark, in answer to C. F. W. (p. 64.), that the New Providence is to the Black Jamaica what the Large netted Romana melon is to the Green Egyptian melon. Neither the Providence pine nor the Large netted melon have a shadow of chance to compete with the other two in any thing but size; besides, if two suckers of one of each of the above pines were planted at any stated time, in six years the fruit produced from the Jamaica pine and its offspring will exceed in weight the fruit produced from the Providence pine and its progeny. The Jamaica pine makes suckers more freely, and bears fruit at an early age with more certainty than the New Providence; the latter, like the Queen, is

next to lost except its fruits at a proper season. The fruit of the Jamaica pine is good at all seasons, is the heaviest of its size, the only one that has a good flavour in the winter months, and is esteemed by most the best pine grown. I should not have troubled you with this, had it not been for C. F. W.'s supposition that the Providence should have the preference. I entered the gardens at Blenheim when I was ten years of age, and I know, from experience, that the Black Jamaica pine is by far the best flavoured, and better adapted for a general stock than any other yet introduced into Britain; but what is called the Jamaica in one place is called the Montserrat in others. The Black Jamaica are sold true and clean by Messrs. Cunningham of the Wavertree, and by Messrs. Johnson of the Prescott nurseries, near Liverpool. I am, Sir, &c. — *James Housman. Clapton Nursery, April 15. 1228.*

What is the best Book for instructing a young Botanist, who understands a good deal of the classification of plants according to the Linnean system, without the help of a tutor? — *G. M. Feb. 20.* — Perhaps Hooker's *Flora Scôtica*. — *Cond.*

To prevent the Bleeding of Vines, in answer to A. B. of Croydon. — If a piece of moistened bladder be folded over the end of the vine which is cut, and then bound tightly round with packthread, it will effectually prevent bleeding. — *J. G. C. Paddington, April 6.*

Bruyère's Earth. — Can you, or any of your readers, inform me what sort of earth this is, and whether any of it can be had in Britain? It is said in Professor Brande's *Journal* to be "of excellent quality, giving one fourth of a combustible matter formed of ulmine, and a carbonaceous body but little soluble in potash; the remaining three fourths being a pure siliceous sand, without a trace of lime. Yet so effectual is this earth, that, where it cannot be obtained, certain exotics cannot be cultivated." (*Brande's Journ. of the Royal Inst. of Great Britain, Jan. 1828, p. 492.*) — *A. B. Paddington, Feb.*

Terre de Bruyère is the French term for our peat-earth, inadvertently translated above as if it were the name of a person or place. — *Cond.*

Chrysanthemums. — Sir, I see in Vol. II. p. 197., an account of the cultivation of chrysanthemums, by Mr. Munro; the directions given are very plain, and perhaps judicious, but not economical, especially considering the dearth of litter this season. I agree with him in striking cuttings; but we have no frame room nor dung to spare for them. In the beginning of March I fill a 32-sized pot with cuttings (which holds as many as we require), and place it in a house in which we keep half-hardy plants, and when the cuttings are struck, I put them into small pots, and treat them according to his directions; such as shifting, pinching, &c., but not *mixing*, and I never see better plants than ours. I should be glad to hear of a better plan attended with less trouble and expense. Perhaps, also, Mr. Munro will be able to give a hint how to procure seed and raise seedlings? Country practitioners expect something from the dignitaries of the profession. — *R. B. March 12. 1827.*

The May bug is the *Cetonia aurata* of entomologists (see Samouelle, p. 192.), the grub of which lives in decayed wood, and not on the roots of plants or trees: the perfect beetle is shining green gold, with a few slender whitelines crossing the wing-cases. The *Anómala horténsis* (alluded to by Mr. Swainson, in his interesting paper in your Magazine) is little more than half the size of the May bug: the thorax is dark brassy green, and somewhat downy, and the wing-cases dark chestnut. I am, Sir, your's, &c. — *N. S.*

Toads in Gardens, in answer to Rusticus in Urbe. (Vol. III. p. 493.) — Sir, I beg leave to state, from my own personal knowledge, that toads do not live on slugs; nor have I ever observed them to eat them at all, notwithstanding the remark of your correspondent that 'they come forth in the evening, at the same time with the slugs. This remark is just. I have paid considerable attention to toads; and my object in presuming

now to trouble you with this letter, is not for the sake of my name appearing in your valuable pages, but to set forth some of the qualities of the poor animal. I have always kept one in each of my cucumber and melon frames, in the manner your correspondent states, and always found them to answer the intended purpose. Their food consists chiefly of winged insects, particularly beetles, which they devour with great avidity, though without teeth, having great strength in the muscles of the jaws. They are likewise very fond of grubs, and devour great numbers of them where they lie near the surface, removing the surface with their snout to get at them. Were the occupiers of land generally aware of this sufficiently, they would not suffer the poor animal to be treated as it too often is; for notwithstanding its being one of the most useful of animals, it is often treated in a way at which humanity shudders, by wanton boys and illiterate fellows, from the most absurd idea they have that it is ugly and poisonous, and will sometimes spit upon them; and from the most abominable superstition, that if it comes into a house it is ominous, and forbodes some calamity that will happen, without ever considering that the poor creature owes its origin to the same Universal Parent with ourselves, and that He adapted its nature to its manner of living, as well as that of all other creatures. The utility of the toad is, I believe, generally known to gardeners, and by them it is treated with kindness. If you should deem this any way worthy of your notice, so as to procure them more respect from others, by giving it a place in your pages, you will confer on me a lasting obligation.

There are many kinds of birds which may be kept in gardens, for the purpose of destroying slugs. If agreeable to you, when I have leisure, I will give you a line or two upon them. I am, Sir, &c. — *D. French. Harlow, March 29. 1828.*

Our correspondent appears to us to be exactly that sort of naturalist, and feeling benevolent man, which we should wish every gardener to be. Those of our readers who recollect his remarks on sparrows (Vol. II. p. 121.), will unite with us in requesting Mr. French to let his brethren see his name in our pages as frequently as possible. — *Cond.*

Pæonia Woodfordia. — Can you inform me if this is a variety or a distinct species? I have cultivated it for some years, but have never seen the flower. — *D. F. Carlouvie, March 17.*

The Genus Phlox. — I have heard that a monograph of this genus was in preparation; can you inform me if it is published, or how it is to be procured, or what is the best substitute for such a monograph, or the nurseryman who has most sorts of Phlox for sale? — *Id.*

The Dahlia, in answer to Mr. Hawkins, of the Haw. — Respecting the derivation and pronunciation of the name of that most beautiful and noble flower the *Dahlia*, I beg to observe that, to the best of my belief, the first of that species introduced into this country, was presented to Lord Holland by Professor *Dahl*, a Swedish botanist. Hence, without doubt, its derivation; it being named, very naturally, after its introducer, as is generally the practice in such cases. From the above, I think that the correct pronunciation must obviously be *dāl-ya*. I remain, Sir, yours, &c. — *Carolus. Camberwell, Feb. 1828.*

Varieties of the genus Citrus. — Sir, Permit me to request, through the medium of your interesting Gardener's Magazine, that your intelligent correspondent An Amateur (Vol. III. p. 272.) will be so obliging as to inform me whether the Sweet Shaddock, the Forbidden Fruit, the Pompoleon, the Sweet Lemon, and Sweet Lime are really to be obtained in this country, and if so, where they may be procured; for I am well aware of the difficulty of obtaining sweet fruit from plants raised from seeds or pips. I beg also to enquire in what respect the fruit of the Pompoleon differs from that of the Sweet Shaddock; and that An Amateur will likewise be so obliging as to inform me whether he is acquainted with a fruit of the genus *Citrus*, called

the Cluster or Grape Fruit; a fruit I have heard much extolled for its exquisite flavour. I have great pleasure in taking this opportunity of bearing testimony to the correct statement of An Amateur's mode of striking cuttings of the genus *Citrus*, given in your valuable Magazine. (Vol. III. p. 272.) My gardener has tried it with complete success; the cuttings put down proving well rooted at the end of the third week. It is with much interest I read the observations on the culture of the genus *Citrus* in the Gardener's Magazine; it is a tribe of plants in which I take great delight, and of which I am anxious to obtain every information. The Sour Shaddock grows most luxuriantly in my hot-house, producing plenty of fine fruit; but the Sweet-fruited Shaddock I have not yet been able to obtain. I am, Sir, &c. — *P. D. Liverpool, March 13. 1828.*

The Coccus Insect on the Nonpareil Apple.—Sir, I send you a branch of Nonpareil apple, of which there are several at this place trained to a west wall, and all of them are covered with an insect which I have never seen on a fruit tree before. This insect does not, like the aphis, spread itself on stone fruit, but it has begun to show itself on some pear trees on the east wall. I have no doubt that it will ultimately kill the trees if allowed to go on, and am at a loss to know what will be the best means of stopping it. I can find no account of it in any book to which I have access, and should feel much obliged to you for the name of the insect, and for informing me what you think is likely to destroy it. I ought to add, that it spreads itself on the fruit in the summer, and disfigures it much. I am, Sir, yours, &c. — *Rob. Reid. Montrath, near Collumpton, Feb. 20. 1828.*

The insect is the *Coccus ovatus* L. It is much more frequently seen on the bark of young ash, and red willow trees, in woods and hedges, than on fruit trees. The wash used for the extirpation of the other species of *Coccus*, viz., urine and lime water, frequently applied before the leaves appear, will probably destroy or keep them under; if not, tobacco water will. — *J. M. for Cond.*

The Brown Grub complained of by Mr. Lee of Bristol seldom attacks the potato, but is a mortal enemy to lettuce, celery, and all the cabbage tribe. Wherever their depredations are observed, dig below the eaten plant, find the insect, and destroy it, otherwise another plant will be devoured on the morrow. A little fresh slacked lime laid round each plant will defend it, unless the grub rises directly from below. — *J. Housman.*

Woodlice in Frames, in answer to Rusticus in Urbe. (Vol. III. p. 493.) — Where these insects are troublesome, sink a pan in the soil, its rim level with the surface: fill it half full of water, and place therein slices of ripe fruit; cover the pan with another, leaving room enough for the insects to enter; destroy the captives every morning, and continue this baited trap till all are caught." — *J. H.*

The Spot in Cucumbers and Melons.—Is it caused by insects or damps; and is there any cure or preventive? Any general remark upon this most destructive disease will be highly acceptable to—*F. of Yarmouth. Jan. 27. 1828.*

Mignonette and Medlars.—What time ought mignonette seed to be sown, and what treatment is best to procure good plants for flowering during the winter months? What is the best plan of keeping medlars for spring use? — *Id.*

Maggots in Celery.—Sir, During the two last months the celery in this neighbourhood has been very much infested with small maggots, which bred in the leaves, so that the most promising crops have been entirely destroyed by them. Some assert that they may be prevented by planting the celery without dung; but this I can contradict, for I planted a row in the middle of my celery quarter without any, but it was covered with the insects in the same manner with those which had the common treatment.

The manner in which they breed in the leaf seems very curious. I was lately at the garden of the Horticultural Society, and, although the celery there bore very evident marks of their depredations, the circumstance had passed entirely unnoticed. A hint from you or any of your numerous correspondents will greatly oblige, Sir, yours, &c. — *J. F. Battersea, Dec. 5.*

The Duffin Bean. — My zealous and active correspondent at Carthage, in one of his last letters, requests me to enquire about and procure for him some seeds of a species of large flat bean cultivated in gardens about Madras, in the East Indies, under the name of the Duffin bean, after the gentleman (Dr. Duffin, of the Hon. Company's service) by whom it was first introduced. I shall, therefore, feel much obliged for any information as to the plant which produces this bean, its native country, uses, mode of cultivation, class and order, and Linnean name, and also the channel through which I can obtain a small supply of seed for my friend at Carthage. — *William Hamilton. 15. Oxford Place, Plymouth, Feb. 17. 1828.*

Charcoal Powder for packing Pinks and Carnations. — Has any of your correspondents ever tried the effect of charcoal powder, to preserve the vitality of slips of pines or carnations in their passage from one place to another? My Carthage correspondent says, in a letter of the 28th of October last (just received), after speaking of the arracacha roots which he sent me packed in powdered charcoal, "some slips of carnations, similarly packed, which I received from Bogota, are now flourishing in the garden at Camapaga." The journey from Bogota to Carthage occupies from six to ten or twelve days; and, if the charcoal was sufficient in that climate to preserve the slips in a growing state for so many days, I think the method might be expected to answer, in this climate, for the transmission of cuttings to and from various parts of the kingdom, as well as to and from all parts of the Continent: at all events, the suggestion is not amiss, and it might be worth while to reduce it to the test of experiment. — *Id.*

Preventing the Canker in all kinds of Fruit and Forest Trees. — A patent paste for this purpose is advertised by Robert Monteith, a forester in Fife. We shall be glad if some of our readers will state what they know of it and of Mr. Monteith. — *Cond.*

Raising New Holland Seeds. — Dear Sir, I shall be extremely obliged to you, or any of your correspondents, if they can inform me of the best method of raising New Holland seeds, as well as seeds from New Zealand. I have about sixty sorts of the former, and thirty of the latter; but unfortunately they have but lately come into my possession, and I fear many are too old to vegetate. I wish to know the proper soil; whether they will grow out of doors or not, and the proper time for sowing them, &c. I am, dear Sir, &c. — *Lignum Vitæ. Isle of Wight, March.*

Pópulus græca, with reference to Mr. Moggridge. (Vol. III. p. 410.) — I recollect having met in the *Monthly Review* some years back, with a report of the Academy of Sciences of Paris, as it was then called, on the comparative value of poplars, in which *P. græca* was, from experiment, decidedly pronounced to be far superior to any of the other species in strength and durability. I regret my memory does not serve to give a more particular reference; but, such as it is, it may be relied on. Indeed as much might, in a degree, be inferred from the difficulty of propagating it, either by layers or cuttings; but as it sends up suckers pretty freely when established in the ground, it, of course, may be propagated by cuttings of the roots. — *J. R. Kilkenny Nursery, March 20.*

Leaf Buds into Flower Buds. — A practical horticulturist begs to be informed by some of the physiological readers of the *Gardener's Magazine*, what the rationale is of the methods frequently and successfully resorted to by gardeners, to reduce a too luxuriant fruit tree into a bearing state, or to cause it to produce flower instead of leaf buds. The methods generally practised are, ringing, cutting the roots, transplanting, giving the branches a

horizontal or pendulous direction, &c. &c.; dry warm weather, at a particular stage of the formation of the buds in the preceding summer, has, it is believed, also the same effect. It may be attributed to the diminution of the ascending, or preponderance of the descending, sap; but, granting this, it is only the remote, not the proximate, cause, and we advance but one step towards the solution of the question. How is it that sap of one description produces flower buds, and that of another leaf buds? Do these saps respectively contain the germs of either; or have they the faculty of changing germs that previously exist, and are neutral, into one or the other? Querist having hitherto met with no satisfactory reasoning on the subject, and not subscribing to either of the above explanations, hesitates in forming an opinion, in hopes that some person who has made vegetable physiology more peculiarly his study, may throw sufficient light upon a subject of no mean interest in horticultural practice.—*A. P. H. March 24.*

Saltpetre. — A correspondent solicits attention to the properties of saltpetre, as a stimulant or manure of vegetables. He gives an account of an experiment, or trial of it rather, on 3 square poles of a crop of barley, which had been sown after a crop of cabbage. 30 lbs. was the quantity used; and it had a most astonishing effect in rendering the barley much more luxuriant than the rest of the field. Our correspondent acknowledges himself unable to account for the circumstance, though one of his admissions sufficiently does, viz., the salted crop “would have been actually too great, had not the summer *been so dry.*” Thus showing, that the powerful attraction of moisture by the salt, was the immediate cause of the luxuriance. Had it been a wet summer, little or no difference in the crop would have been observable. We advise our friend H. C. W. to continue his projected experiments, and shall be happy to hear of the results. — *J. M. for Cond.*

Treatment of Gold and Silver Fish, in answer to several querists. — These beautiful objects of the animal kingdom, though long ago introduced into Europe from China, their native country, seldom breed in such numbers as they might be expected to do. It has been lately discovered that in ponds heated by the waste water discharged from steam factories, the gold and silver fish breed abundantly. From this circumstance, it has been suggested, that, as heating hot-houses by warm water is now so generally adopted, a portion of this, led occasionally into a garden basin, would keep the water in such a temperament as would not only always be agreeable to the fish, but promote their breeding. — *J. H.*

To destroy Grubs and Wire-worms. — Sir, Observing in the Gardener's Magazine for January last (Vol. III. p. 381.), that A Surrey Reader complains that grubs and wire-worms trouble him much, by “destroying from 60 to 100 cabbage plants every night,” I am induced (as no one else steps forward to assist him) to communicate to you the following, published by the Highland Society, which I some time ago copied from a newspaper: —

“The following preparation is humbly recommended as a valuable remedy to vanquish, if not entirely to exterminate, all the tribe of vermin that prove so injurious to the industry of those who cultivate the soil.

“Take tobacco leaves, cut them small, and make a strong infusion of them, by pouring hot water upon them in a tub. The infusion must not be boiled, as that would carry off by steam a great part of the most valuable principle, the essential oil of the tobacco. When this infusion is cold, dissolve in it one or two pounds of common gum arabic; and, when the latter is dissolved, a pound or more of flower of sulphur may be added, particularly if it is intended to give a smart washing to wall fruit trees. It is conceived that from January to March (if the weather be mild) is the best time for the application of the above infusion to wall fruit trees, and to all kinds of gooseberry and currant bushes, previously pruning them, and weeding clean round their stems. Some days after the first washing, which may

be done with a watering-pot or garden-engine, it will be beneficial to prepare a portion of the infusion with an additional quantity of gum arabic, to be applied with a brush to the stems of the bushes, at least for a foot or more above the ground. The air of the atmosphere will generally keep the gum moist, and any vermin that may rise from the earth in the course of the spring will be arrested by the gum, and the tobacco will kill them effectually. There is one species of grub that never quits the ground until it becomes a kind of butterfly. This species destroys cabbages and cauliflowers by attacking the roots about an inch below the surface of the earth. It will, therefore, be necessary, before these vegetables are hoed up, to give a small portion of the infusion to each plant from a watering-pot; and it is further recommended, when these plants are taken up to be transplanted, that the roots be put into the infusion for a few minutes before they are dibbled into the earth. It is wonderful how much this infusion promotes the vigour of vegetation, when it gets to the root of any plant. Vipers, which are common in gardens in England and the south of Scotland, will soon forsake the garden in which this infusion is used freely. The essential oil of tobacco, if applied to the mouth of a viper upon the tip of a small rod, will kill the reptile to a certainty. This oil will kill the most poisonous snakes of warm climates. The tobacco leaf yields a considerable quantity of essential oil, which is readily obtained by smoking tobacco in a nipple-glass. The oil will condense in the bulb of the glass; and it is so extremely caustic, that it will destroy the epidermis when it touches the human skin."

Before I conclude, it may be proper for me to mention that I have never made trial of the above infusion, and cannot therefore speak as to its efficacy. I am, Sir, &c.—*Agricola. Near York, March 7. 1828.*

Disease of the Anemone. — Sir, I am glad that my simple query, respecting an apparent disease of the anemone (Vol. III. p. 322.), has called forth such a valuable and interesting communication from Mr. Baxter of Oxford. (Vol. III. p. 491.) I have examined the specimens of the anemone leaves (herewith returned), and have little doubt that the causes of barrenness in both cases, originates in these curious little parasites. One point, however, remains to be explained. Admitting my plants were attacked in this way to what cause can be attributed the uncommon *size* of those leaves, and those only, which bore these hidden parasites beneath. They exhibited, if I may be allowed the expression, a morbid luxuriance, in being 1 or 2 in. higher, and considerably stouter, than the surrounding leaves. Was this an effort of nature, to counteract the absorption of sap thus unnaturally drawn by the parasite it nourished? If not, one would expect that those diseased leaves would have been smaller, and less luxuriant, than the others, and would have prematurely withered. The solution of this question rests with the physiological botanist. I hope Mr. Baxter will give it his consideration. Yours, &c—*A. B. March 19.*

ART. XI. Obituary.

DIED, at Chelmsford, on the 13th of April, Mr. Richard Vachell, well known as a florist at that place, and throughout Essex. — *T. F.*

Died, April 14th, at Boughton Mount, Maidstone, John Braddick, Esq. F.H.S., aged 63. Mr. Braddick was a warm supporter and generous promoter of all scientific pursuits, and was particularly attached to, and skilful in, horticulture, as his papers in the *Transactions* of the Horticultural Society and in this Magazine bear testimony.

THE
GARDENER'S MAGAZINE,
AUGUST, 1828.

PART I.
ORIGINAL CORRESPONDENCE.

ART. I. *On the Horticulture of the United States of America.*
By JESSE BUEL, Esq. C.M.H.S.

HORTICULTURE received but little attention in the United States, until quite a recent period; and, with occasional exceptions, was limited to the culture of common culinary vegetables and fruit. A young people must earn the means of procuring the luxuries and elegancies of horticultural refinement, before they can enjoy them. The wants and necessities of a new country are generally too imperious to leave much time, or to afford adequate means, for indulging extensively in the ornamental and scientific departments of gardening; and perhaps the republican principles of the government, and the habits of the people, have in a measure tended to retard improvement in these higher branches. Most men are ambitious of popular favour: and here, where all are upon a political equality, whatever savours of singular ostentation or extravagance rather begets bad than good feelings. The Tartar conquerors conciliated the Chinese, by conforming to the laws and customs of those whom they had conquered. But the greatest obstacle to improvement has been the want of prominent examples. There have been no royal gardens, no horticultural gardens, no botanical gardens (but in name), no public gardens, to stimulate and instruct those who might wish to cultivate taste, or acquire knowledge, in this branch of rural improvement. Respectable private gardens were occasionally found in the neighbourhood of large towns; but their number was too small, and the access to them too limited, to produce much influence towards general improve-

ment. Four or five public nurseries are all that are recollected of any note, which existed in the States in 1810, and these were by no means profitable establishments.

About the year 1815, a spirit of improvement in horticulture, as well as agriculture, began to pervade the country, and the sphere of its influence has been enlarging, and the force of example increasing, down to the present time. This spirit has been fostered and greatly increased, by valuable periodical publications devoted to these branches of industry, by the munificence of state governments, by numerous associations of practical and scientific individuals, and by the example and publications of Great Britain; and among the latter, Sir, your *Encyclopædias* and *Magazine* have been particularly beneficial. And we have an assurance, in the skill, perseverance, and vigour, with which our people are pushing improvements in navigation, in the facilities of internal commerce, in manufactures, and in other branches of labour, that ornamental gardening will neither retrograde nor remain stationary.

Our nursery establishments are increasing in number, respectability, and patronage. Selections of native fruits are made with better judgment and more care than they formerly were. Most of the esteemed European varieties have been added to our catalogues. The cultivation of indigenous forest trees and shrubs, esteemed for utility or as ornamental, has been extending; and the study of botany is becoming more general, as well for practical uses, as on account of the high intellectual gratification which it affords to the man of leisure or of opulence.

My personal acquaintance with American nurseries does not enable me to describe them particularly. I shall, therefore, barely enumerate the most distinguished, with the view of affording to your readers useful memoranda, in the event of their wishing to procure American trees, plants, or seeds.

The *Linnean Garden*, at Flushing, is the oldest, and probably the most extensive, nursery establishment in America. This nursery has been already noticed in your *Magazine*, in the communications and advertisements of its proprietor, Mr. Prince.

Bloodgood's Nursery, at Flushing, is principally devoted to the propagation of fruit trees. The proprietors are practical men, and have acquired a reputation for great accuracy and the fine condition of their trees.

Mills & Lawrence have also a nursery at Flushing, in which I understand Mr. Prince has become a proprietor, and which is probably embraced in the account of the *Linnean garden*. (Vol. II. p. 90.)

Floy's Nursery, on the island of New York, is appropriated to the culture of both hardy and tender trees and plants. The collection of green-house plants is respectable, and comprises many rare and beautiful varieties.

Wilson's Nursery is in the neighbourhood of Floy's and embraces a like culture and variety.

Hogg's Nursery is also upon the island of New York. It is principally devoted to green-house culture and hardy shrubs.

The proprietors of the three preceding establishments stand high as horticultural botanists, and as men of practical skill and industry. The high price of land has in a great measure circumscribed their labours, and somewhat limited their culture to those articles which promise the most prompt and certain return.

The *Albany Nursery* was established by myself, in connection with Mr. Wilson, a practical gardener. In addition to the fruit and green-house departments, we are rearing many varieties of hardy forest trees, for utility and ornament; and our situation peculiarly qualifies us for furnishing seeds of native kinds in the best condition. We have spared no trouble or expense to obtain all the choice varieties of fruits; and have in progress descriptive catalogues, which I propose sending you when completed.

The *Botanic Garden* at Brooklyn. This has been recently established by M. Parmentier, a gentleman of taste from the Netherlands. As M. Parmentier has brothers in the Netherlands and in France, eminent for their pomological researches, his establishment will be eminently useful, by introducing among us the finer fruits of the European continent.

Landreth's Nursery, at Philadelphia, is an old and respectable establishment, and is devoted to the culture of native and foreign plants, hardy and tender. It has profited much in rare American plants, from the labours of botanists who have explored the interior, under the orders of government. The varieties of the magnolia are numerous, and in fine condition. I saw in this nursery, in August, the Osage apple (*Maclura*?) in fine bearing.

The *Burlington Nursery* is in New Jersey, twenty miles above Philadelphia. It sustained a high reputation under Mr. Coxe, and, I believe, is likely to maintain its character under Mr. Smith, the present proprietor.

Kenrick's Nursery is at Newton, in the vicinity of Boston, and is appropriated to the raising of fruit and ornamental trees, &c.

Sinclair & Moore have commenced a nursery at Baltimore, principally, I believe, for propagating fruit trees.

Respectfully,

Albany, New York, Feb. 6. 1828.

J. BUEL.

ART. II. *Some Account of the Botanic Garden of the University of Copenhagen.* By J. W. HORNEMANN, Professor of Botany, Knight of Dannebrog, F.H.S. Translated and communicated by M. JENS P. PETERSEN of Copenhagen.

To collect from our own and distant countries the plants which adorn the earth, and are serviceable to its inhabitants, and to cultivate and arrange them together, in a suitable spot, whether according to their natural affinities or otherwise, are the objects and uses of a botanic garden. Such collections materially assist the student to obtain a general knowledge of vegetation; and though they have been hitherto formed on too mixed a character for the purposes of natural classification, yet, being displayed on a small space, the enquirer is enabled to explore, in a short time, the vast domain of Flora. For this purpose, botanic gardens have always been considered of great importance, and especially to seats of learning. The Italians were the first to adopt the idea; soon afterwards it was introduced into France. Thence it was transferred to the north of Europe, about the end of the sixteenth century; and Denmark had the honour of possessing a botanic garden in her own territory, before such a thing appeared in the neighbouring realms.

In 1600, a medical botanic garden was established at the university's buildings in Copenhagen; but it was feebly supported, and on so small a scale, that the united zeal of O. Worm, J. Tuiren, Simon Pauli, the Bartolini's, and Ol. Borck, for the science of botany, could not raise its reputation to an equality with a later establishment laid out at the palace of Rosenburgh, by P. Vrylling, and by him called the Hortus Christianeus. Among distinguished men, the taste for botany declined in Denmark; and, from the beginning till nearly the middle of the eighteenth century, the kingdom had not a single botanist: for both the Buchwalts, who taught the science, did not deserve the name. But the great luminary of Sweden shed a light over all the neighbouring states; the taste for a knowledge of plants prevailed; and from this time eminent men, as F. Holm, C. F. Rottboell, and J. Zoega, showed by their useful

exertions, that the science was embraced with much avidity, and that a love of it became general over all Europe.

In 1752, a skilful pupil of the Hallerian school arrived from Germany, who afterwards became professor of botany in this university. By his ability, and the fostering care of the then ministers, Count A. G. Moltke, and — Thott, botany, as well as other sciences, was greatly promoted. A new and large botanic garden was laid out in the same year, at the custom-house, which was graciously presented to the university by King Frederick V., who also endowed it with an annual grant of money. At this time Oeder was on his travels, collecting plants and drawings for the *Flora Dánica*, of which he was the first author. John Zoega, brother to the celebrated archæologist Zoega, and a beloved pupil of Linnæus, was lecturer; and the cultivation of the plants was conducted by an excellent Dutch gardener of the name of Kæsemakker.

When Oeder gave up the pursuit of botany for that of agriculture, and Zoega for that of finance, C. F. Rottboell, the professor of medicine, and who, since 1771, had given lectures on botany, was made superintendent of the garden. This gentleman's works were chiefly extracted from the labours and discoveries of his pupil, J. G. König, in the East Indies, and are well known: but his valuable monograph of *Epidéndrum* placed him in the first rank as a practical botanist. During his direction, the garden was removed to Charlottenburgh in 1778, where it now remains. In the following year, the celebrated botanist, Martyn Vahl, just arrived from the prosecution of his studies at Upsal, was appointed lecturer on botany, but soon gave up the office, in consequence of disagreement between himself and some others, with respect to regulations connected with the establishment. M. Vahl set out on a botanical excursion over Europe and part of Africa, and was succeeded in the lectureship by his pupil, Erik Wiborg. After this time the garden was improved, in consequence of its connection with other establishments of the kind; and, though it was strictly a royal garden, the entire use of it was given up to the university.

Rottboell died in 1797, having bequeathed his whole interesting herbarium to the garden, and which being united with what it before contained, viz. the collections of Rolander and Forskæl, added much to the value of the institution.

Rolander was a native of Sweden, and a pupil of Linnæus. He made a voyage to Surinam, where he collected many rarities in natural history, of which he gave a description in the Latin language. Returned from his travels in Surinam, he

went to Copenhagen, and, being in want of money, sold his herbarium and journal to the professor of physic at the university, Kratzenstein, who immediately presented both to Rottboell. The manuscript was afterwards given to the privy counsellor, Count Thott; and when the great library of this nobleman was sold, Vahl had the good fortune to purchase the MS., which contained much valuable matter. (See *Hornemann's Life of Rolander*.)

The hortus siccus of Forskæl was of great importance; and though after its arrival at Copenhagen it was mismanaged and deranged, it still contains many good specimens. Vahl and Schedmacher were entrusted by Rottboell to arrange this collection; and they, having leave to select some of the duplicates for themselves, have consequently preserved the best. Rottboell's collection is now of no great consequence, especially as Vahl has described the best in his *Symbola Botànica*.

After the death of the natural philosopher, P. C. Abildgaard, professor at the veterinary college, Viborg succeeded as director of this school in 1801; and, having previously been elected author for the continuation of the *Flòra Dànica*, &c., was now also made professor of botany.

Before the year 1754, botany was not considered as a science requiring a special professor, and therefore was usually attached to that of medicine. Oeder was the first botanical professor; but, on his retiring, it again merged into the professorship of medicine, and so continued till Viborg's appointment.

During Vahl's direction, and with the able assistance of the superintendent, F. L. Holboell, the culture of the plants received quite a new impulse; their names were corrected, useless incumbrances cleared away, and a new classification and general arrangement adopted. In 1801, the author of this memoir was appointed lecturer in botany. His Highness the Duke of Augustenburgh, who was an active member of the directory, strongly recommended the improvement of the garden to the king, who granted a liberal sum of money to pay off the debts of the establishment, and to build a new hot-house, &c. Vahl died in 1804; and having in his latter years occupied much of his time in composing his *Enumeratio Plantarum*, consequently had but little time to dedicate to the garden: the writer succeeded to the united offices of professor and lecturer in botany, and author of *Flòra Dànica*.

The present garden contains somewhat more than five English acres, inclusive of buildings, which, with all appurtenances, was, in 1817, presented to the university by His Majesty, who at the same time ordered the director to resign,

and decreed that in future the direction should be solely vested in the university.

In the arrangement of a botanic garden, it may be necessary to observe, many difficulties present themselves; the nature of the plant as to climate, soil, exposure, volume, duration, and all the various and varying circumstances of seasons, &c., render any arrangement, whether natural or artificial, extremely difficult to execute with propriety and convenience. A considerable extent of ground is requisite for even the types of the genera, multiplied as they now are; and for the reception of the species an incredible space must be had. Besides, such an intermixture of closely allied species would soon destroy identity, and produce such confusion in the way of the student, as would retard rather than advance his knowledge of the science. For these reasons, the system of Van Royen, according to which the plants of this garden were arranged by Rottboell, was rejected in 1805, and the sexual system of Linnæus was introduced. But this could be followed with perennials only, in what is called the systematic quarter. The annuals are necessarily kept apart; and in the arboretum, shrubbery, and experimental quarters, no systematic order is maintained. In the latter quarter, newly received plants and seeds are raised, and kept till the names received with them can be ascertained. Experience has taught this lesson; for much disappointment arose from the credulity with which we relied on our foreign friends. This manner of proceeding is unavoidable, unless the botanic garden is to be made a chaos. With the plants in pots no attempt is made at classification.

The plants in the garden are numbered, and correspond with the *Enumeratio Plantarum Horti Regii Botanici Hafniensis*, 2 vols. 8vo, which the writer published in 1813 and 1815. The specific and generic character being given in this work for every plant, the student is enabled, with its assistance, to make his own examination; and, should he wish to consult other authorities, he goes to the library, which is open at certain hours of the day, and looks at any book it contains. The work above mentioned is published at His Majesty's expense, on the condition, that the proceeds from the copies sold may be applied to the purchase of botanical works for the use of the library; and by such means many books have been procured, which were much wanted before.

The commercial intercourse of Denmark with the rest of the world, and the liberal intercommunication of ourselves and similar establishments, have incredibly increased our number of plants. All useless or supernumerary plants have been

banished to make room; and, in 1811, another quarter of an English acre, fenced and prepared, was added by the generosity of the king; who also, to provide sufficient protection for exotics, assisted to erect a stove above 72 ft. in length, and calculated to hold 2,000 plants in pots. Besides this, there are two green-houses, one Cape-house, one dry-stove for succulents, and two other small houses.

The *Hórtus Upsalénsis*, first published in 1748, contained descriptions of only 1,400 plants; at present there are certainly not less than 15,000 known to be perfectly distinct species. These, perhaps, have been improperly swelled by varieties; and botanists have to regret that the number of species has been surreptitiously augmented by careless intermixture, and sometimes by the silly vanity of authors or cultivators.

When identical characters are constant, it has been the custom with botanists to consider this circumstance as a proof that they are specific; and accordingly they have placed such in their lists as species, when, in fact, they should have been only entered as varieties. The celebrated Philip Miller found it impossible to bring the *Daucus Carota* (*Daucus sylvestris* Mill.), from its wild slender habit, to the full size of the old cultivated variety; and, therefore, concluded that they must be distinct species. But, with all deference to his memory, I must observe, that his trial was not long enough continued to decide the question: cultivation for a few years, cannot have the effect of cultivation in all kinds of soils and situations for centuries; and therefore, I presume, his experience was in this case defective.

Our collection consists at present of above 8,000 species. Few of them have been purchased, but chiefly supplied by the kind attention of Danish travellers, and others, our friends, who are in foreign stations. Of these, it is but justice to mention, with respect, the names of Shousboc, consul-general at Tangier; Professor Balke, of Christiana; Professor C. Smith, of the same place, but who fell a victim to his zeal, before he took his charge; N. Wallich, Knt. of Dannebrog, Calcutta; Lieutenant Wormskiold; Professor Schouw (my colleague); the Rev. Dean Dienboll, East Finmarken; Dr. Rafn, at St. Croix Benzon, East Finmarken; Dr. Hornbeck, at St. Jean; Ecklon, at the Cape of Good Hope; and Capt. Lieut. Holboell, in Greenland.

One fact connected with transportation of seeds deserves to be noticed, viz. that of 1,800 sorts sent from Denmark to Calcutta in 1820, 1,400 vegetated in four days, with Mr.

Potter of the latter place; but those sent to Europe almost all perished before their arrival.

It has not been intended, in this memoir, to compare the botanic garden at Copenhagen with the much more extensive establishments of the same kind at Berlin, Vienna, and particularly in England: but what has been done here, with very limited means, will sufficiently show how much may be accomplished, when enlightened men, zealous in a useful pursuit, unite their endeavours to obtain a desired object. Our income is only 685*l.* per annum, which must cover every expense, except the professor's salary.

The connection of a library and herbarium with a botanic garden is absolutely necessary. Except Paris, almost all the gardens of the Continent are defective in this respect. Establishments where such advantages exist greatly relieve the preceptor, while they assist the pupil; by a comparison of specimens and descriptions, misnomers of the living plants may be detected, and thereby the arrangement of the garden becomes more complete, and the studies of the scholar advanced.

The library contains a good many works of old authors on botany, as well as almost all the cheap works published on the Continent. Among many of less note, there is Cupani's *Pámphytum Sículum*, which is a very rare book. But the library is deficient in modern works, especially the splendid publications of England and France.

The herbarium is valuable. Vahl's specimens and botanical library were presented to the garden in 1805, by His Majesty. Besides this, there is Rottboell's, which contains the specimens collected in Surinam by Rolander; those from Guinea, by Isert, and a fine volume of specimens, collected by Piso, in Brazil. In addition to the above, Professor Schouw's collection from Italy, Sicily, &c., will be obtained, as well as the herbarium of Professor Schumacher.

A very respectable assortment of specimen seeds and fruits, in spirits, arranged by Professor Schouw, occupy several large cabinets, and are a useful appendage to the establishment. The MSS. are chiefly those of Vahl; they were his collectanea, and the materials from which his *Enumeratio Plantarum* was to have been compiled; from which task he was too soon called away.

ART. III. *Vegetable Physiology, with reference to Gardening.*
By Mr. MAIN.

Sir,

As phytologists are not yet quite agreed in their definitions of vegetable economy, and as it is probable many of your readers are unacquainted with the different opinions on the subject, I presume that a plain statement of the question may not be either unsuitable to the purpose of your pages, nor unacceptable to the novitiates who may read of, or be engaged in, the art, of which your work is at once the mirror and faithful chronicle. Indeed, one of the most valuable characteristics of your work, is its chance of visiting those obscure recesses of practical knowledge and intelligence, whence may be elicited the most important ideas, which, from the unassuming modesty of the possessors, are, like the flowers of the wilderness, "born to blush unseen," and lost to the world, merely from want of seasonable excitement to their developement, or a proper channel through which they can be made public.

To gain information on the subject of this paper, we naturally look back to the patriarchs of the science. The knowledge of the wise king of Israel, who "spoke of plants from the cedar of Lebanon to the hyssop that springeth out of the wall," is lost to us; but we have the collective wisdom of Pliny, Malpighi, Grew, Tournefort, and Evelyn; and, though last not least, the far-famed Linnæus, and Miller. From these fathers of the art we learn, that vegetation is "a kind of life, without sensation;" that, in character, plants are trees or shrubs, herbs or intermediates; in duration, are annuals, biennials, or perennials; in reproduction, are oviparous, viviparous, or both; in organisation, are composed of roots, either bulbous, tuberous, or fibrous; of stems, either herbaceous, shrubby, or arborescent; of leaves, simple or compound; of props, whether foot-stalks, stipulæ, tendrils, down, glands, spines, or bractes; of buds, either present or wanting, below or above ground; of flowers, single or double, or male, female, hermaphrodite, or neuter; of fruit, whether contained in caskets, pods, bags, drupes, apples, berries, cones, or nuts. In structure, are composed of outer and inner bark, alburnum, wood, and pith; and that the whole is charged with sap, which is either aqueous, resinous, gummous, or oleaceous.

The situation and texture, the uses and form, the crescive phenomena, motion of the fluids, and changes of its colour and qualities, constitute that branch of natural philosophy

which is called phytology : but it is unnecessary to enter into the descriptions, or even notice all the terms, employed by botanical physiologists, in their definitions of vegetables, for this would greatly exceed the limits of a letter ; neither is it necessary to mention those points on which all these writers are agreed. I shall therefore confine myself to notice only the more prominent particulars on which they disagree.

The ancient writers considered every plant as an individual. That the seed consisted of two principal parts or essences ; namely, the plumula and rostellum. The first ascending and becoming the visible part of the plant, and the other descending and becoming the root. The faculty and use of the root being to fix the plant in the ground, and to imbibe from thence the proper nourishment and moisture for the support of the head. That from this radical organ, and from supplies absorbed from the air, and light, and heat of the sun, the plant received its crescive powers, became enlarged, and had its parts, stem, leaves, flowers, and fruit, developed and expanded to perfection. That, as the expansion proceeded, the sap flowed in a constant stream upwards, ascending through the tubular and cellular structure of the stem, branches, and leaves, by the latter of which it was elaborated into the true blood of the plant ; and when the fruit was perfected, and fallen with the leaves (if a deciduous tree), then, as the summer efforts of the plant were at an end, this vital fluid began to ebb, and gently returned to the root again, there to remain until called into action by the warmth of the following spring. Hence, this direct and retrograde motion of the sap was, and still is, called its circulation. To establish this fact, the following incidents are sufficient proofs : viz. If a cicatrix be made across the bark and liber of a tree, the upper lip of the wound heals by protrusion *downwards*, much faster than the lower lip advances upwards : that a bud or graft, inserted on an unsuitable stock, will, in time, be elongated downwards, by the returning sap, into the ground, and furnish itself with roots for its own future support : and that, if a bud or graft of a variegated holly, or jasmine, &c., be placed on an *unvariegated* stock, the suckers which may rise from such stock will be variegated also. These, and many other instances occurring in the practice of gardening, could not happen without there was an actual circulation of the sap ; and this showing, also, that the juice or blood of the plant is not only the principal agent in the expansion and maturation of vegetation, but is also convertible into all the parts, qualities, and forms of which plants are compounded.

This is the system handed down to us by the fathers of phytological research, and which continues to be espoused by the first authorities of the present enlightened age.

But within these last thirty or forty years another hypothesis has been presented to public notice, I believe by the late Dr. Darwin; and which only requires to be placed by description alongside of the foregoing, in order that the attention of your young readers may be drawn to a study and consideration of the question; as haply, by experiment, they may be able to come to such rational conclusion as will be, at least, satisfactory to their own minds.

Dr. Darwin considers a tree not as an individual, but as a vegetable polypus. The trunk, or stem, is a common receptacle, which has been formed by a bud, and is the supporting foundation on which are borne all the numerous buds which form the various branches, shoots, leaves, flowers, and fruit, of the head. Each single bud is an individual *perfect* plant, comprising all the essentials appertaining thereunto as such; it furnishes, and is furnished with, a radicle or radicles of its own, which descend to the ground, and form, on the passage thither, that part of the stem called the liber, or inner bark; and should these radicles be obstructed by a bough, they wind their way on one or other side of it; and, if arrested by a cicatrix or wound, they endeavour to pass over rather than trend round, thus producing those descending processes or protrusions above alluded to; which when they have reached the ground, become additional roots. These radicles are the roots which so readily issue from cuttings, and so soon form the junction with the stock, in the practice of budding or grafting.

This hypothesis also assumes, that the pith maintains its place along not only the principal stem, but is ramified as are the branches. The wood or perfect timber which surrounds it, is the ligneous remains of the radicles of former or extinct buds. The alburnum (or what carpenters call the sap of timber) is composed of the radicles of buds of former years, not yet divested of their tubular structure, being kept distended by the sap in its state of elaboration, the inner surface of which is annually attached to, and transformed into, timber; in concentric rings; and the exterior surface receives at the same time a layer from the liber, formed of radicles of still more recent formation. The liber, or inner bark, is the most recently descending radicles of the living buds; an outer portion of which is annually indurated, and becomes an addition to the outer covering, or excrementitious bark of the tree. The structure of this ligneous and fibrous formation

being united together by excentric rays of ligneous tissue, which diverge from the pith, and extend to the outer bark.

This hypothesis (for I shall not call it sound doctrine) is plausible, in accounting for several of the phenomena of vegetation; the individuality of buds as perfect plants or essences; the cause of the different appearance in the closing lips of a wound; the circumstance of variegated plants rising from the roots of unvariegated plants. It gets rid of the greatest difficulty of all; namely, the convertibility of the matured sap into all the parts and properties of plants; and also accounts for the circumstance of buds placed on alien or unsuitable stocks, forming roots for themselves. Neither is it admitted by Dr. Darwin that there is any return of the sap downwards, but that all the time it is in motion its course is from the root to the extremities of the branches; and that by the increasing cold of autumn it is gradually inspissated, losing its fluidity, and at last is wholly arrested by the cold of winter.

I am, Sir, yours,

Chelsea, May 22.

JAMES MAIN.

ART. IV. *Outlines of Horticultural Chemistry: — Manures.*

By G. W. JOHNSTON, Esq., of Great Totham, Essex.

(Continued from p. 81.)

MANURES are of benefit to plants, by affording some of the gases of the atmosphere to their roots, in a concentrated form. A soil, when first turned up by the spade or plough, has generally a red tint, of various intensity, which, by a few hours' exposure to the air, subsides into a grey or black hue. The first colour appears to arise from the oxide of iron, which all soils contain, being in the state of the red, or protoxide; by absorbing more oxygen by the exposure, it is converted into the black, or peroxide. Hence, one of the benefits of frequently stirring soils: the roots of incumbent plants abstract the extra-dose of oxygen, and reconvert it to the protoxide. Coal-ashes, in common with all carbonaceous matters, have the power of strongly attracting oxygen. Every gardener may have observed how rapidly a bright spade becomes covered with rust, or red oxide, which is left foul with coal-ashes. All animal and vegetable manures absorb oxygen from the air during putrefaction. If it is enquired of what benefit this property is to plants, since the gases are freely presented to them in the atmosphere, it admits the ready answer, — that they enjoy the additional quantity which is thus collected to the

vicinity of their roots, without the latter source being diminished; and that plants are benefited by such additional application to their radiculæ, has been proved by the experiments of Mr. Hill, quoted in a previous part of these outlines. The question may also be asked, whether the roots have the power to extract the oxygen from its combination. That they have admits of little doubt, since Saussure found that they were able to extract various saline bodies from their combinations; not only extracting, but selecting in those cases where several salts were in the same solution. Carbonic acid is also of benefit to plants, when applied to their roots in an advanced stage of their growth. Animal and vegetable matters evolve this gas whilst putrefying, but I am not aware of any manure that absorbs it from the atmosphere, so as to be for that reason beneficial to vegetation. Lime attracts it rapidly, but combines with it so strongly, that it is useless to the plant, until the carbonate of lime so formed is imbibed and elaborated.

Manures assist plants, by destroying predatory vermin and weeds. This is not a property of animal and vegetable manures: they foster both those enemies of our crops. Salt and lime are very efficient destroyers of slugs, snails, grubs, &c. It is astonishing how ignorantly neglectful are the cultivators of the soil, when their crops are devastated by the slug, not to dress them so as to render the surface of the soil quite white, during a promise of a few days' dry weather, with caustic lime. It is instant destruction to every slug it falls upon, and those whom it misses, are destroyed by their coming in contact with it when moving in search of food. It is a common practice to burn couch-grass, docks, gorse, and other vegetables which are very retentive of life, or slow in decay: a more uneconomical, unscientific method of reducing them to a state beneficial to the land of which they were the refuse, cannot be devised. In breaking up heaths, such exuviæ are very abundant; but, in all cases, if the weeds, leaves, &c., were conveyed to a hole or pit, and, with every single horse-load, and with barrow-loads in proportion, a bushel of salt and half a bushel of lime were incorporated, it would, in a few months, form a mass of decayed compost of the most fertilising quality; the lime retaining many of the gases evolved during the putrefaction of the vegetable matter, and the salt and it combining to destroy noxious animals which might form a nidus in the mass. By this plan, nearly all the carbonaceous matters of the refuse vegetables are retained; by burning, nearly all of them are dissipated. The forming of a compost such as that recommended, is justified and approved by the experience of many.

Stable-manure, and all decomposing animal and vegetable substances, have a tendency to promote the decay of stubborn organic remains in the soil, on the principle that putrescent substances hasten the process of putrefaction in other organic bodies with which they come in contact. Salt, in a small proportion, has been demonstrated, by Sir J. Pringle, to be gifted with a similar septic property; and that lime rapidly breaks down the texture of organised matters is well known.

There is no doubt that rich soils, or those abounding in animal and vegetable remains, are less liable to change in temperature with that of the incumbent atmosphere, than those of a poorer constitution. This partly arises from causes explained when treating of the influence of the colour of soils upon vegetation. Some manures, as salt, protect plants from suffering by sudden reductions of temperature, by entering into their system, stimulating, and rendering them more vigorous, impregnating their sap, and, consequently, rendering it less liable to be congealed. (*Johnson's Essay on the Uses of Salt*, ed. 2. p. 129.)

Every cultivator of the soil, by certain empirical signs, may be able to determine that certain applications are required to render his land productive; for example, he knows when chalk may be applied to advantage; but no lengthened practice has yet enabled any one to judge of the quality of a chalk by its exterior appearance. Chemistry alone can do this. The farmers of a district in Yorkshire having experienced the benefit of lime, procured some from a neighbouring kiln, and were astonished to behold the injury it caused to their crops, and it remained an anomaly of their experience, until chemistry demonstrated that it contained a very large proportion of magnesia, which, absorbing carbonic acid very slowly, remained in a caustic state, to the injury of the roots of the plants, and the diminution of benefit from the carbonic acid evolved by the decomposing constituents of the soil.

Every farmer in districts where marl is to be obtained, is aware that it is highly beneficial when applied to the land; few of them, however, know that this various-coloured compound of earths contains always chalk, often to the amount of 50 per cent. They learn, from experience, that the marl of one district is most beneficial to their heavy soils; that of a second district is productive of most benefit upon light land: yet they are ignorant, in the first instance, that the first marl contains silica, or sand; that the second has alumina, or clay, as a component; and, if a new pit of marl is opened, they have to wait the result of some years' practice before they ascertain its quality. The chemist can inform them in an hour.

(*To be continued.*)

ART. V. *On Manure, &c.* By AGRONOME.

Dear Sir,

I PERCEIVE that I have got a grand *top-dressing* with salt by Mr. Johnston ; and however *green* I may appear in his eyes, I wish never to look *black* on account of it ; but I acknowledge that a *brown study* came over me, when I saw how deliberately he had perverted my language, and endeavoured to make it appear that I had contradicted myself. Pray, Mr. Conductor, pray, gentle Reader, did you observe that I had contradicted myself before you were informed of it by Mr. Johnston? If you have, you are more sharp-sighted than I ; but it cannot be expected that every one should have an eye like Mr. Johnston, who can pry into futurity, and prophesy that I will contradict myself further in my next. Well, so be it : it is by trying both sides of a question that the truth is discovered ; and if I am mistaken only in the meaning of the word manure, I stand convicted and corrected. I have neither language nor learning to contend with the learned ; but, like most practical gardeners of my age, I boast of a certain sort of instinct, by which we know, the moment we see a plant, how to propagate it, and when we have grown it, we know how to make it flower brilliantly, or fruit abundantly, and how to increase or diminish the flavour of the common fruits. Some possess this knowledge only generally, others more particularly ; hence the great victory obtained at flower-shows and gooseberry-shows, by florists and others, over the common gardener. A knowledge of chemistry may certainly assist amateurs in such pursuits, but if the working gardener has studied botany well, and is obliged to carry the names of ten thousand plants in his head, I think it a pity to stuff such a head with the jargon of chemists. * I have read Lavoisier ; I have Sir Humphrey

* Because there have been good gardeners or farmers who knew nothing of chemistry, it does not follow that a knowledge of chemistry may not render the best of these still better cultivators. If this knowledge only enabled them sooner to attain those results which they now gain by experience, it would be of great use : but it not only enables them to attain those results sooner, but, as Mr. Johnston has shown in the preceding paper, to apply their experience on fixed principles. To the cultivator, therefore, a knowledge of chemistry is next in importance to that of vegetable physiology. We are willing to excuse a little want of courtesy in a correspondent of strong sense like Agronome, (and we know Mr. Johnston too well to suppose he will take offence on this occasion,) but we cannot allow Agronome to state anything that might, even by possibility, lessen the efforts of the young gardener to acquire a knowledge of a science which, if it were once as well known among gardeners as physiology is among some of them, would effect as great improvements in the arts of cultivation as it

Davy's works beside me; Messrs. Johnston's works have been sent me in a present from the salt-works; but all are thrown away upon a person in full practice. Every different soil requires different treatment, and that for every different or distinct species of vegetable. Mr. Johnston's mistake with me is a fundamental one; he says (Vol. III. p. 400.), "Every substance capable of increasing the fertility of the soil is a manure;" whereas I think nothing is a manure which does not enrich the land. I cannot think that the *moving power* and the *regulator* of a machine are one and the same thing. Mr. Johnston may have seen land in England that was too poor to grow a heavy crop of cabbage, and yet too rich to grow a crop of wheat. On such soils, in wet seasons, the straw will be flaggy and the grain shrivelled, as it would be on an old dunghill. Now, what is the name of the substance which would harden such straw, and make such grain plump? I call it any thing except a manure. Again, in making up composts for certain plants, I frequently put in some of the soil which had grown cucumbers the previous year; this I call manuring: but were I to reverse this practice, and put the decayed soil into my cucumber bed, what should I then be doing? Why, the very reverse of manuring. Mr. Johnston then says, "Hence earths applied as regulators are actually manures," &c. Herein I suppose I am wrong again; for when I dig or plough rather deeper than usual, and thereby turn up some fresh soil, I may thereby increase the fertility of the land, but cannot conscientiously say I have manured it, at least my landlord would not believe me if I did say so. Neither could I call it manuring if I had got the said soil from a distance; for it would be only adding earth to earth, &c., as increasing the quantity may or may not improve the quality. We read in the parables of "seed being sown on stony ground," or stony places where there was "not much earth," and even on a rock, where, of course, there was no earth at all; the result was the same; it all died for lack of food or moisture, or from having no root in itself, or from no depth of earth. It is not said that for lack of manure the crop perished; and no doubt if the said rock had been covered with a foot of the same poor soil in which it had sprung up so quickly, the crop might have been fifty, sixty, or an hundred fold. The royal Psalmist speaks of corn on house-tops perishing, I suppose he meant in the gutters of old rotten

has done in the arts of manufacture. Before this can take place, however, young gardeners must not merely have Sir Humphrey Davy's work "beside" them.—*Cond.*

thatched buildings; the failure of such crops is not for lack of manure, but want of solidity in the soil. A heavy roller, or the tread of a gardener's foot, may often insure a crop that might be lost for want of such labour. Thus you see what I think is the meaning of the word manure. It must be, not only a decomposable substance, but a substance actually in a state of decomposition; such, for instance, as the heart of oak, which, when rotten, is truly a manure; but so long as it remains perfectly sound, is no more a manure than it was when a growing tree. But, if I am in an error, I shall just tell you what I think is the best of all possible manures, and that is, *bone-dust*; only I use it in the allegorical and metaphorical sense of the word, as we say "good cultivation is half manure," or good cooking is half victuals; or as we would recommend oil of thyme (time) for wounds or disorders, or strap oil to a mischievous boy, &c. But, according to the literal sense of the word, I make use of all the bones I can by any means (robbing churchyards excepted) collect, for the use of my vine and other fruit borders, also for asparagus and similar beds; for such purposes they answer my most sanguine expectations. There is much difference in the quality of bones.

I frequently smile at hearing of such and such a quantity of bushels, or even lbs., of such and such manures being proper for an acre, &c.; just as if one man could not eat or drink three times more than another, without being surfeited or intoxicated.

Dear Sir, &c.

AGRONOME.

ART. VI. *Defence of Head-Gardeners against the Complaints of a Journeyman.* (Vol. I. p. 410.) By J. D. P.

Sir,

SEEING, in a former Number of your Magazine, a complaint, that master-gardeners neglect their duty to those under them, in withholding instruction, &c., I beg leave to set your readers right on this affair. I have been in many situations, and in the different characters of apprentice, journeyman, and master, and in establishments both great and small; but in no place, nor under any master, however severe or strict, did I ever see the obedient, teachable, and attentive workman deprived of the means of learning his business, through the disregard or unwillingness of the master to put him forward.

True it is, I have often seen young men of very good natural parts leave a place, but very little more improved than

they were when they first entered there; but I am bound to say that this happened more from their own careless remissness, than from any want of kindness on the part of the master. Some apprentices very soon get wiser than even their masters; in which case, unluckily for themselves, they go out into the world but little better for either his advice or example; and, consequently, when they find that they have been losing time, lay the blame on him, whom they called, but never esteemed as their master.

I have only to add the advice, that if young men will only exert themselves in the pursuit of their business, and gain the favour of their masters by careful assiduity, they will always find them their friends, and ready as well to teach as to assist them in their views of advancement. Whatever may be the personal character or peculiarities of manner of the masters, conciliatory behaviour on the part of the pupil will insure his respect; and nothing of whatever the former may know or practise will be withheld from the latter. I am, Sir, &c.

J. D. P.

ART. VII. *Remarks on the present Style of Ornamental Gardening in this Country, and Suggestions for Improvements.*
By an AMATEUR.

(Continued from p. 90.)

It would not be difficult, were it necessary, to lay down positive and particular rules for the laying out of the gardens of each of the above-mentioned eras of building. It may be sufficient to remark, that they all admit of architectural ornaments; the taste in their disposition, and the skill in their execution, being determined by the style of the individual building. The terrace, or succession of terraces, of the baronial castle will not require the same ornaments as the monastic terrace; nor will that, again, be so richly or gorgeously adorned as the Palladian terrace: and let it here be observed, by the way, that by a terrace is not always implied that elevated spot from whence a commanding and distant view is obtained, a misconception of this description of ornament to a building entertained by many; but any raised, straight and broad, paved or gravelled walk, on a level, running parallel to, or surrounding, a building. Many, in these times, have chosen to misinterpret the original intention for which terraces were formed, and because some of the remains of them, and no doubt, therefore, the finest and most agreeable, enjoy a distant and extensive prospect, have imagined that, without

that, no terrace could strictly so be called; whereas I conceive the main object of a terrace to have been for the purpose of obtaining, in most, but particularly bad, seasons, a dry and healthy promenade; and, no doubt, if from this promenade an extensive scene was commanded, the enjoyment of the exercise taken thereon would be greatly enhanced. If we define a terrace merely as a long and spacious straight walk, no one will object to the introduction of it; and I think I may affirm, that those of your readers who possess one will agree with me in confirming the enjoyment they have derived thereon. Of those houses built in the reigns of Charles II., James II., William and Mary, and Anne, some exception to my original position may be judiciously made; for, to follow strictly the trim style of gardening which was originally adopted by their possessors, and considered then as appropriate, would be, in truth, to return to a style which was introduced in bad taste, and ought, therefore, to be discarded. Where such houses remain, it will be well perhaps to keep up their gardens partially, introducing with them, or engrafting upon them, the better style of Palladian gardening, that, too, which immediately succeeded; by which we can only subject ourselves to the same species of reproach, if reproach it can be called, as that given to our munificent ancestors, when they completed the Saxon or Norman cathedral with the then newer style of Gothic.

It is a mistaken notion to suppose that because we enjoy not the climate of Italy, we cannot, therefore, appropriate to this country the Italian style of garden. It is also a mistaken notion to consider the Italian style of gardening peculiarly adapted to the Italian climate. Those of your readers who have visited Rome in the winter season, will agree with me in enthusiastic admiration of their gardens at that season of the year. By an Englishman the gardens of the Villa Borghese and Pamphili Doria can never be forgotten. But he has visited them in winter; he has seen and enjoyed them at that season, for the amelioration of the rigours of which they have been constructed, for even at Rome a winter has its rigours. Let him visit these gardens in summer, and he will find them a very pandemonium. If his eyesight recovers from the glare of their blazing ornaments, he will not so easily forget the intolerable heats he has found collected in them, and their almost total want of shade; for the shade of evergreens, be they the beautiful *Ilex* or spreading Stone pine, is not true shade to an Englishman, accustomed as he is to the delicate and umbrageous foliage of our deciduous natives, the oak, &c. By as much, therefore, as our climate throughout the year approaches

to the climate of an Italian winter, by so much should we do wisely in adopting their style of gardening. It is true, we have not marble in the same abundance; and, if we had, we have neither artists to execute figures and vases in that material at a moderate price, nor would these, when executed, bear the frost or damp of this country; and so far the Italian style is not fitted to this climate: but we have stone, and that in abundance, and of the most beautiful description, such, too, the Portland, the Bath, and the Ancaster, as will stand all weathers; and the two latter so easy to cut, and so durable when cut, that the place of marble ornaments may be supplied by them at a very moderate expense.

A plot of ground, of one acre only, attached to the mansion, laid out in the Italian manner, with its terrace, steps, balustrades, vases, fountain, and rectangular gravel walks, will add more to the cheerfulness of both the exterior and interior of that mansion, throughout the greater portion of the year, than five times the quantity of land laid out according to our present English style of gardening. What flower-beds, and those formal ones, corresponding in lines parallel to the gravel walks, may be introduced, will be made gaudy and rich for the summer season by annuals, of which, in colour, there are great variety; and roses, care being taken to put but one kind of plant into each flower-bed, bulbous roots, such as snowdrops, crocuses, tulips, hyacinths, &c., will afford a spring crop of many colours; china-asters, geraniums, &c., will decorate the autumn; and but a few winter months will remain for the architectural ornaments to display fully and solely those powers which, with the conjunction of the flowers, they have, through the spring, summer, and autumn, maintained. A garden of this sort is "an extension of the splendour of the residence into a certain limited portion of the demesne; it is a sort of chapel of ease to the apartments within doors." If it cannot justly be called a part of the mansion, it is at least a link of connection between that and the other gardens; and for such other gardens our own English style is as good, perhaps better, than the style of any other nation. In these gardens this rule should be observed, that, as they approach the park or forest, the wilder and more in character with that adjacent should they become, till, by an apparently natural and easy step, the one amalgamates with the other. However strong contrasts, and happy and unexpected transitions from one style of gardening to another, may be permitted, and perhaps with good effect, within the garden ground, when the park is approached, no such trick should be allowed. The simple grandeur of our park scenery requires no raree-show

work to attract attention ; it stands unrivalled with its hundred accompaniments of wild splendour, which cannot but be materially deteriorated by any contrivance to show it off to advantage.

I shall conclude these remarks by stating that the gardens of the Earl Brownlow at Bolton, in Lincolnshire, and those of the Earl of Plymouth at Hewell, in Worcestershire, are the best specimens I have seen of the above style. Lady Farnborough has carried French gardening to a great height at Bromley Hill, in Kent. Mr. Wells has done more at Red Leaf, in Kent, in English gardening, than any one has ever attempted : both he and Lady Farnborough have made, with consummate skill, real landscapes, such as would not disgrace the pencil of Gaspar Poussin. Lady Grenville, beautiful as are the gardens at Dropmore, has fallen too much into the rustic and basketwork, and therefore perishable, ornament ; and the feelings excited in a promenade through Her Ladyship's tasteful shrubberies are those of regret at so much useless expenditure, at so great a distribution of a material which a very few of our winters must destroy.

Yours, &c.

Woodstock, April 16. 1828.

AN AMATEUR.

ART. VIII. *Plan for a Kitchen, Fruit, and Flower Garden, with the necessary Buildings applicable to each.* By JUVENIS OLITOR.

Sir,

SOME of your readers being desirous of seeing plans of gardens occasionally introduced in your periodical, I am induced to hand you the annexed, which, though not the idea of a genius, nor the work of a perfect draughtsman, yet, as it combines many of the requisites of a complete gardening establishment, it may not be unworthy of your notice. Should it appear to deserve this, I would be encouraged to send you the details of the various structures composing this design ; as houses, pits, stoves, &c., with elevations and sections, all on the plan and principle of curvilinear erection, and heating by hot water. Likewise the preparation of the borders, planting of the trees, arrangement of the kitchen-garden, &c.

In the annexed sketch I have calculated on an extent of three and a half acres within the walls ; the space immediately adjoining on the outside to be more or less extensive as the wants or wishes of the proprietor may require. I

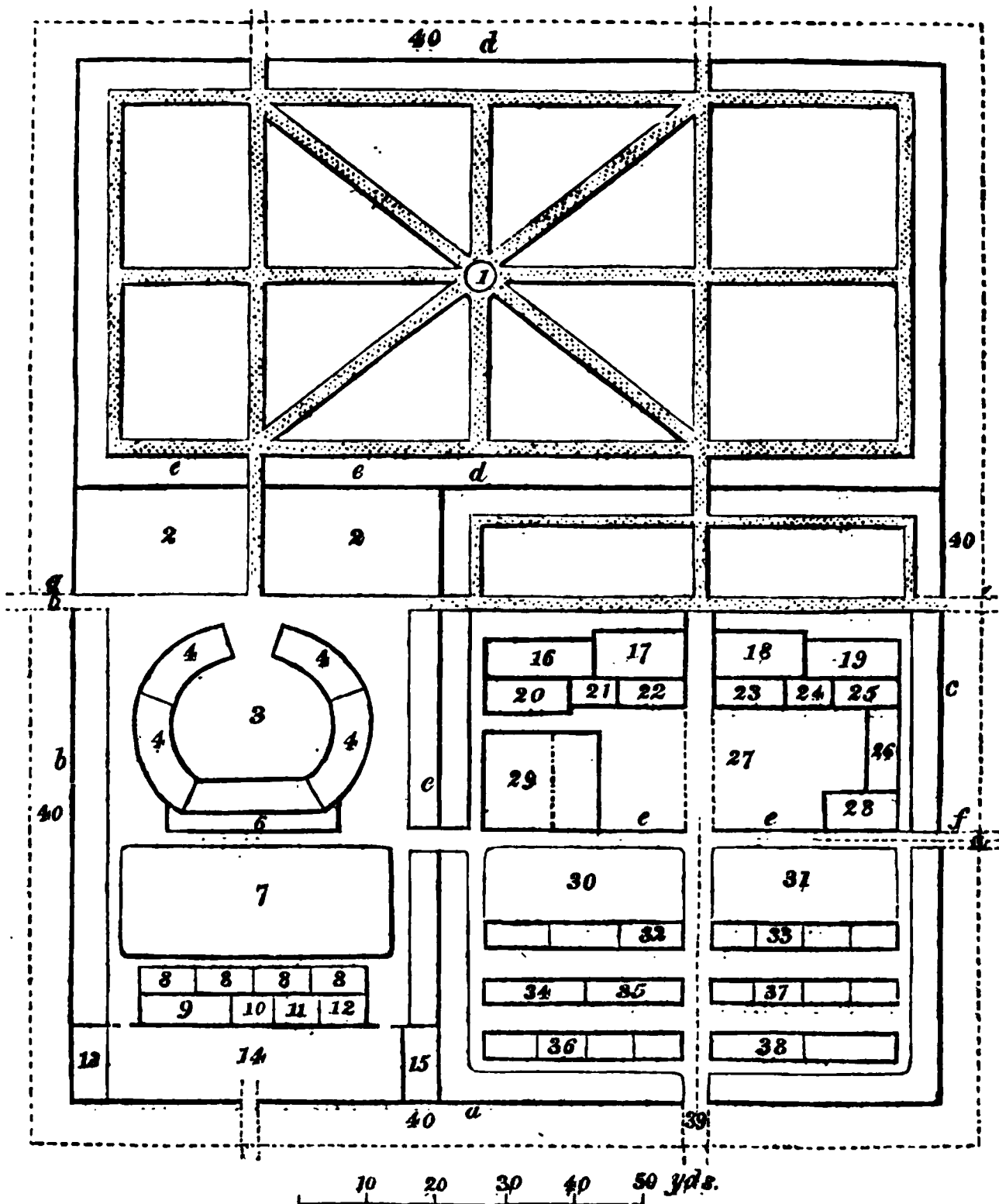
would advise the surface of the whole to be nearly level, with a gentle slope towards the south. The north wall (*fig. 66 a*) should be 12 ft. high; the east (*b*) 9 ft.; the west (*c*) 9 ft., and the south walls (*d d*) 8 ft. The interior walls (*e e e e*) may be only 6 ft. in height. The walk (*f*) leads to the gardener's house, and the walk (*g*) is the principal entrance from the mansion.

I am, Sir, yours, &c.

February 5. 1828.

JUVENIS OLITOR.

66



1, Kitchen-garden.

2 2, Parterres.

3, Area for plants in summer, with fountain in the centre.

4 4 4 4, Botanic or plant houses.

6, Fire sheds.

7, Place for potted plants for forcing.

8 8 8 8, Houses for forcing flowers.

9, Seed and root room.

10, Fire shed.

11 and 12, Under-gardener's rooms.

13, Ice-house.

14, Compost-yard.

15, Pot-house.

16, Fruiting pine stove.

17, Experimental stove for tropical fruits.

18 and 19, Vinerias.

20, Fruit-room.

21, Fire shed.

22, Seed-room.

23, Pottery shed.

24, Fire shed.

25, Mushroom-house.

26, Foreman or under-gardener's house.

27, Compost and dung yard.

28, Tool-house.

29, Gardener's house and yard.

30, Space for strawberry pots for forcing.

31, Beds for asparagus and sea-kale for forcing.

32 and 33, Pits for forcing asparagus, sea-kale, radish, &c.

34, Nursing pit.

35, Succession pit.

36, Pits for strawberries, French beans, &c.

37, Cucumber and melon pits

38, Peach-houses.

39, Cart road.

40, Exterior fruit and vegetable border.

We shall be happy to receive the details alluded to, and request Olitor to explain them, as concisely as possible, and always by references to letters or figures on the plan, and never by writing on it, as words cannot well be copied in reduced wood engravings. We prefer, also, such explanations as can be read with or without looking at the plan, at pleasure; such, for instance, as the last sentence in Juvenis Olitor's letter. — *Cond.*

ART. IX. *On the A'bies álba, or White Spruce Fir, as a Nurse in Plantations.* By Mr. JAMES FRASER, Dartfield.

Sir,

IN course of conversation with Mr. M'Leish, who made a professional visit here, about three months ago, he mentioned that the white American spruce (*A'bies álba*) was one of the best and hardiest nurses he had met with, in exposed situations; and, in proof of his assertion, adduced several places in the county of Sligo, where it had succeeded in a preeminent degree. Understanding, previously to this, that the *A'bies álba* was planted in considerable quantity at a neighbouring place, Ballydugan, the demesne of W. M. Burke, Esq., I went there for the express purpose of ascertaining its relative progress, and I found Mr. M'Leish's statement fully confirmed.

The demesne of Ballydugan is situated on the eastern side of a hill of considerable eminence, and the plantations crowning the summit are among the most elevated and exposed in the county of Galway. Along the whole range of the south-west, or most stormy side, of the hill, the white American spruce and Scotch pine have been planted in the margin, in some places in alternate groups, in others promiscuously; and I uniformly observed the latter stunted, and the former resisting the blast. In the interior of the wood I found the white American spruce almost peering with the Norway spruce. However, I here wish to confine my observations to the tree as a nurse, and should you, at any distant period, consider my observations worthy of a place in your Magazine, I will write at length on its relative quality, as compared with the other spruces.

What I have above mentioned regarding the quality of this tree as a nurse may be of some interest to planters, as it may serve as a substitute for the Scotch pine, against which a kind of fashionable outcry has been lately raised.

I may here add, that the *Abies álba* is more generally planted in Connaught, than in any other part of Ireland which I have visited.

Yours, &c.

JAMES FRASER.

Dartfield, near Loughrea, April 8. 1828.

ART. X. *Observations on the Lombardy and Canadian Poplars.* By Mr. JAMES FRASER, Dartfield.

Sir,

IN your Magazine for March last (Vol. III. p. 409.), I observed an article on planting forest trees, by C. F. W. of Fazeley; the observations, however, principally refer to two species of poplar. I do not, at this time, refer to the above article with the view of making any remarks on the profit and loss therein adduced, although I think the *per contra* somewhat exaggerated, but simply to correct a mistake into which, I humbly conceive, C. F. W. has fallen.

He says "the Lombardy poplar is the more valuable for timber, the black Italian the quicker growth." Now, if by the former he means the *Pópulus dilatàta*, and by the latter *P. monilífera* (literally, one-bearing, the shoots being twigless), I beg leave to say that I am quite of a different opinion; the latter is incomparably the better tree in every sense of the word, and I refer C. F. W. to any and every one who has planted these trees, either with a view to ornament or profit, under equal circumstances.

Persoon says that the *Pópulus fastigiàta*, or *dilatàta* of others, is the poplar of Italy; and the nurserymen more often call the *P. monilífera* (*P. akladésca* of *Lind.*, I suppose) the black Italian, than the Canadian, although Canada is its habitat. Lindley's edition of Donn's Catalogue is as yet in the hands of few in this part of the empire, and it would save much trouble to your country readers in general, and occasion but little, comparatively speaking, to you, to add the synonyms to the recently altered names. Accuracy in matters of this kind is a matter of no small moment, and it would be well if nurserymen and planters would adopt a standard in their trivial English names. With annuals and other evanescent vegetable beings, the virtuoso may go on, *ad infinitum*, "ever changing, ever new," to the inconvenience of those chiefly who are so fickle as to follow such chamber knick-knacks: but with the man of general business the case is otherwise, he has neither the time nor inclination to follow up such trifling; and, in the whole range of rural affairs, I cannot conceive any thing more

galling, than that, after a great deal of trouble and expense in draining, reclaiming, and planting a tract of bottom land with what was conceived to be the *Populus monilifera*, the ground should, through the shifting of names which has lately taken place and is daily going on in your far-famed city, be found, in the course of a few years, covered with the stiff and worthless Lombardy poplar.

Yours, &c.

JAMES FRASER.

Dartfield, April 1, 1828.

ART. XI. *On the Natural History of Plants.* By B.

Sir,

WHEN we consider the ardour with which ornamental gardening and botany have long been cultivated in this country, and the vast sums expended in these favourite pursuits, as objects of commerce or of elegant luxury, it is surprising that so little should be known of the natural history of the vegetable world. Though some mention is usually made of the native country and local habitation of the plants figured in the beautiful works published by Mr. Curtis and his successors, these notices are, for the most part, so scanty and imperfect, that they convey no adequate idea of the effect produced by the subjects of them in the great system of nature; and in some cases, from the circumstance of only a small portion of a flowery branch being delineated, a totally erroneous idea is given of the plant itself. *Rhododéndron caucásium*, No. 1145. of the *Bot. Mag.*, occurs to me as an instance. In Messrs. Loddiges' elegant little work, a miniature outline of the whole plant is often given; and is, indeed, absolutely necessary to convey a correct idea of it to those who have never seen the originals. Some ridiculous disappointments have occasionally happened to amateurs, from thus mistaking the flowery branch of a forest tree for the full-length portrait of a shrub. Instead of something manageable, like a myrtle or geranium, they have received a plant which has astonished them, by a growth as rapid and gigantic as that of the grain of mustard in Scripture; and which, after having filled their houses, and tormented them year after year, has, after all, never found room enough to produce its blossoms. But it is not as a matter of mere amusement, but of interesting knowledge, that the deficiency alluded to is to be regretted. What adequate idea could a native of the tropics form of the effect of the hawthorn in our vernal landscape, were it

described to him merely as “native of England, and the temperate countries of Europe, where it is used to form hedges;” or of the primrose, were he merely told that it “inhabits the banks and bottoms of the said hedges?” How could he picture to himself the beauty of our enclosures in the month of May, when every spray is powdered with blossom, and the whole country perfumed with fragrance; or of our sequestered dells bespangled all over with the gay tufts of the latter? We are in similar ignorance with respect to most of the favourite inhabitants of our gardens. Who has seen the crocus, the tulip, the hyacinth, the anemone, in their native habitations; or if these old acquaintances are too familiar to be enquired about, where do the beautiful family of *Amaryllis* grow, of which we are yearly receiving new varieties from South America? I read of one that it is “native of Brazil;” of another, that it was found on the Andes, or the Organ mountains; but whether in field or wood, in a moist or dry situation, whether scattered sparingly or growing in luxuriant abundance, I cannot conjecture; and, for all purposes of curiosity or cultivation, might almost as well be told that they are “natives of the earth.” All the little information I possess of the effect produced by plants in the great system of nature, I have gleaned either from the conversation or writings of those who have visited foreign countries with other objects in view. Your regular botanist deems it beneath him to deal in any thing but barbarous Latin; though when we consider how many of these learned disquisitions have been set aside by succeeding discoverers, and how probable it is that, when our knowledge of the vegetable creation shall have approached nearer to perfection, the whole nomenclature of botany may undergo a complete revolution, it seems desirable that scientific men should regard such matters rather as unavoidable, than as very entertaining or very important. I hope some of your readers who have had an opportunity of observing the wonders of nature in other climates, will lend their assistance in supplying the deficiency I complain of; and, that an humble example may not be wanting, I may say, that being in Switzerland and the north of Italy, the autumn before last, I was much delighted with the beauty of the *Cyclamen europæum*, which grew in the declivities of the Italian Alps, in an abundance and luxuriance similar to that of the primrose in this country, and in nearly the same circumstances, throwing up its foliage and flowers from amidst the grass, and, in fine specimens, equalling in size the *Erythronium* (Dog’s-tooth violet). The particular spots where I saw it were, the Mont Saleve, near Geneva, and the sides of the mountains which surround the

Lake of Lugano. On the higher Alps, the turf was a perfect carpet of flowers; in some places white with the *Parnássia* and *Ranúnculus glaciális* intermixed, in others of a dazzling blue, with the flowers of the dwarf species of gentian, which grows there in such abundance, that an ardent spirit, resembling whiskey is extracted from the roots, and sold under the name of Kirschewasser. I saw some noble stems of *Gentiàna lùtea* and *purpùrea* scattered about the moist hollows, but they were out of flower. In confirmation of the accounts you have extracted from the Scotch newspapers, of the luxuriant growth of the *Hydránga horténsis*, I may add, that I saw a specimen, of the blue variety, of fully equal dimensions, in the gardens of the Villa Melzi, on the Lake of Como, near Bellagio, one of the most elegant residences that adorn that celebrated scene; and among the exotic collection, which was extensive and in excellent order, I observed several plants flowering in the open air, which are usually considered inhabitants of the stove with us; among others, I recollect *Lagerstrœmia índica*.

In a garden on the hill behind Bellagio, which commands a view of the three branches of the lake, I saw *Alóysia citriodòra* growing in the shrubbery, as large as the Persian lilac, and with a stem the thickness of a man's leg. One of the walks was also covered, from one end to the other, by the *Bignònia radicans*, then in full flower. On the Isola Bella I saw a sweet bay [on which General Bonaparte, when return-from Lodi, had cut his initials], said to be the tallest in Europe; it was feathered with branches, like the Lombardy poplar, and was as tall as an ordinary tree of that kind. To these reminiscences of my own, I may add, from Williams's *Six Months in Jamaica*, that *Plumièria álba* grows on rocks overhanging the sea, where it attracted that gentleman's notice by the fragrance which it diffused, and the singular tortuous form of its branches; and I was gratified to find, in a late spirited anonymous work on Portugal, that our poetical favourite, the moss rose, grows wild in abundance in the hedges near Bucellas.

Recommending this subject to your notice, as worthy to form a prominent feature in your interesting Magazine, and hoping that it will be taken up by those whose observation has been more extended than that of the writer,

I remain, Sir, yours, &c.

April 16. 1828.

B.

ART. XII. *An Account of the Mode of Treatment and Cultivation of the Carnation, &c., followed by Mr. Cornfield of Northampton.* By Mr. CORNFIELD.

Sir,

My friend, Mr. Brown, gardener to His Grace the Duke of Buckingham, has, in your Magazine of November last (Vol. III. p. 238.), paid me some high encomiums on the appearance of my little garden, and particularly as to the healthy and vigorous state of my carnations, &c., and has also expressed a desire that I should give the public some account of my treatment in bringing them to such perfection. With this complimentary request I now comply: but I should encroach too much on your pages were I to do it in the way I could wish, I shall therefore only give a general sketch of my management, which I hope may be useful to your readers.

I have never yet made use of my pen to note down particulars of my process, though I have been a cultivator for more than thirty years; but, notwithstanding this, my mode of growing, and especially my manner of exhibiting them, have procured me the honour of visits from ladies and gentlemen of the first distinction, from all parts of the kingdom, and from whom I have had most liberal orders for carnation and picotee layers, for which I shall always retain a grateful remembrance.

I shall proceed to give a brief outline of my treatment of the carnation and picotee, intending, at a future opportunity, to send you a fuller and more particular account, and which, through your Magazine, may be also acceptable to my friends in general.

In the first place, I prepare my compost as follows, viz. for my strong and high-coloured bizards I mix two parts rich, maiden, yellow loam, rather light and sandy, with one part well-rotted stable dung. This I also use for my crimson bizards and strong-coloured picotees. For my scarlet rose or purple flakes, and delicate picotees, I mix equal quantities of loam and dung, which, from long experience, I am convinced will bloom these flowers in as great perfection as all the nostrums of every author I have read.

My soil being prepared, I commence potting my layers about the middle of March, if the weather permits, and finish about the end. After they are potted, there is little more to be done than keeping the pots free from weeds, and moderately moist. About the end of May, or beginning of June, I take off about half an inch of the surface soil of the pots, and fill up with the same compost used in potting. My sticks are

neatly made, and painted of a Brunswick green, with about 2 in. of the top white. These, previously prepared, I place between the layers, taking care they stand perfectly upright, and in straight lines, like a well-ordered regiment of infantry. In a few days some of the earliest carnations will require tying closely to the sticks; and, to prevent accidents from wind, I look them over at least once every day. At this time the green smother-fly (aphides) makes its appearance. I always get rid of these by dusting them with Scotch snuff, puffed from an India-rubber bottle, having a small tube fixed in its neck. After the plants are wet with dew or rain, is the best time to apply the snuff, or they may be lightly watered overhead with a rose for the purpose. To keep the plants in a healthy growing state, the stems must be regularly tied every day till the first or second week in July. The buds will then appear to bloom finely. The lateral shoots and buds must be taken off, leaving from two to three or four buds to bloom, according to the size you may wish to have the flowers. When the pods are so far advanced as to begin to open at top, they should immediately be tied round with a bit of common beeswaxed thread. When the blossoms begin to expand, a neat cap, of which I use many varieties, should be placed over the blooms.

When the whole are nearly in bloom, the frame and a fine cloth awning are fixed over the stage, and the caps all removed. Then, when the flowers are advanced into full bloom, the circular papers (which I cut with a curious instrument of my own invention) should be carefully placed under each, and fixed with a wire hook, to keep them in such position as that all will appear full to view. They will continue in full bloom for three weeks, after which the awning may be removed, and the operation of layering for future stock be done.

I was so much delighted with my success and show of carnations some years ago, that I was induced to challenge my stage against *all England*! My friend, Mr. J. Knight, of the King's Road, Chelsea, paid me a visit just at the moment I had finished arranging them, and, being much struck with the appearance, was pleased to say, "I might challenge *all Europe*;" adding, "that if such a collection were in London, the proprietor would be better paid for his exertions than at Northampton." This, I dare say, Mr. Knight will verify, and at the same time excuse me for taking the liberty of mentioning his name: indeed, I might refer to many other nurserymen and florists, if it were necessary, who have admired my flowers, and given me credit for my practice.

As you are a friend to order, neatness, and general improvement, I shall, on some future day, give you a few hints on those subjects.

I am, Sir, &c.

P. CORNFIELD.

Northampton, Feb. 18. 1828.

ART. XIII. *Method of cultivating the Lobelia fulgens.* By Mr. THOMAS YOUNG, Gilston Park, Herts.

Sir,

IN the month of November take off the suckers which are thrown up by the old plant, and pot them, singly, into 48-sized pots; plunge them in a moderate bottom heat, and in a temperature of about 55°. By the middle of January the pots will be full of roots: they should then be shifted into larger pots, and placed in a heat increased by 5°. By the end of February they are again shifted, and the heat increased to 65°. In April they are shifted, for the last time, into 12-sized pots, carried to the vinery, and copiously supplied with water. There they should remain till about the 1st of June, when they may be removed into the green-house or conservatory.

This process may be considered troublesome, but the superior growth and flowering of the plant amply repay the care bestowed. From July to October they continue in flower; their stems rise to the height of above 6 ft., are 8 in. in circumference at the base, and covered with branches of 5 ft. high, all beset with a profusion of flowers. The compost should be equal parts of sandy loam, leaf mould, and bog earth.

The *Cyrilla pulchella*, if potted in December (six in a pot), and allowed a little bottom heat throughout the winter, will flower much earlier and finer. I am, Sir, &c.

THOMAS YOUNG.

Gilston Park, Dec. 14. 1827.

ART. XIV. *A Method of flowering the Yucca filamentosa and Veratrum nigrum.* By Mr. J. RUNCIMAN.

Sir,

ABOUT the middle of March, I had occasion to move a fine plant of the *Yucca filamentosa*. It being a strong healthy one, I thought it deserved some extra care to cause it to flower. For this purpose I prepared a pit for it, by first filling the

bottom with stone rubbish, as a drain to keep the roots dry; filling up with a compost of loam, peat earth, and leaf mould, in equal quantities. In this the plant was placed, and in the beginning of May showed flower stems, which rose to the height of above 7 ft., bearing seventeen panicles, having above twenty flowers each, and continued in flower till the middle of September.

By the same treatment I was lucky enough to flower the *Veràtrum nigrum*. This rose to the height of 5 ft., and was covered with a profusion of its small brown flowers.

I am, Sir, &c.

J. RUNCIMAN.

Duffryn, Cardiff, S. Wales, Oct. 15. 1827.

ART. XV. *A successful Method of scaring small Birds from destroying Garden Crops, and especially Peas, with some Remarks on sowing Peas.* By T. L., Maida Hill.

Sir,

A CORRESPONDENT, in one of your late Magazines, suggests a remedy for preventing birds from carrying away seeds newly sown, by attaching a string horizontally to pegs stuck in the ground, the string to be dipped in some composition. I have no doubt of this answering the purpose; as I have myself, for some years past, used something similar with perfect success.

Having repeatedly lost my whole crop of peas, by the birds nipping off the tops immediately on their appearing above ground, I, to prevent this, fix pegs in the ground, about 4 in. high, and at the distance of 4 ft. from each other. To these I attach a worsted thread from peg to peg, crossing them at intervals, something like what children call "scratch cradles." This effectually scares the birds, as I have not lost a pea since I first adopted the plan. Seeds may be protected in the same way.

With submission to your correspondent, it is not the composition that produces this effect, but the string only; when the birds attempt to perch on them, they are overthrown, and so frightened that they never attempt it again: the worsted, too, being of a clinging nature, their claws are sometimes entangled therewith, so that with difficulty they disengage themselves.

A word or two on sowing peas. When intended to be "sticked," I never sow more than two rows together in one place, and these at the distance of 3 ft. apart. I thereby obtain a much larger crop, and also a saving of ground. It is

well known, that the outsides bear more abundantly than the insides, and if only two rows here, and two more in another place, I have four outsides; whereas, were they all sown together, I should have but two outsides. Besides, two rows in one place occupies 3 ft. 6 in., and two rows in another the same, making together 7 ft.: but were four rows sown together, they would take up 11 or 12 ft. of ground.

If you think these remarks worthy a place in your excellent publication, they are at your service.

I am, Sir, &c.

T. L.

Maida Hill, Feb. 23. 1828.

ART. XVI. *Method of destroying the Mealy Bug, and a Description of a Portable Vinery.* By Mr. JAMES ROLLINS, Dingle Bank, Liverpool.

Sir,

I AM surprised, and even sorry, to see so few communications from this neighbourhood in the pages of your Magazine; there are many things and practices hereabout which deserve to be recorded, and I regret that I am incompetent to the task myself, and very much wish I could induce some abler pen to convey to you such reports as would be worthy of a place in your work.

I venture, however, to present you with an effectual remedy for freeing the *Amarýllis* family of plants from the mealy bug which sometimes so much infests them. Dissolve one dram of mercurial ointment in 1 oz. neat's-foot oil; with this mixture anoint the infected plants with a small painter's brush, allowing some of it to pass to the bottom of the leaves, and in among the scales of the bulb; and this, when thoroughly done, will kill or banish the insects for ever, without at all hurting the plant.

I also beg to mention an idea of mine, which may be useful to those who happen to have no hot-house. In order to have a crop of well-ripened grapes in the open garden, without the expense of building a house for the purpose, I would recommend a glazed frame, constructed of the cheapest materials, which I would call a portable vinery. It may be made circular, or a polygon of any number of sides; about 3 ft. 6. in. diameter, sides 4 ft. 6 in. high, and a roof finished off like that of a common hand-glass. Any vine which happens to be growing on a south wall, or even a suitable branch of such a tree, may be taken from the wall, and trained spirally round a conical trellis fixed to the ground, and of no greater

diameter or height than the glass case will conveniently contain. If a space of one foot be allowed between the trellis and the glass, it will be sufficient; and, if the case were constructed in two parts, it would be more convenient in putting up and taking down, and would also give more room and freedom in the management of the tree and fruit.

Strong young vines, or other desirable fruit, planted on purpose for this mode of culture, would answer well; and, as I have calculated the expense of one at about 2*l.* 10*s.*, a dozen of such cases, for grapes or other fruit, would cost much less than a house, which would perhaps not yield more than these portable frames. Strawberries on a conical stage would, no doubt, succeed well in this way: and, indeed, I am so thoroughly convinced of the utility of such erections, that I would even advise a row of them to be heated by hot water.

I have no convenience at present to try this scheme; but I shall prepare to do so as soon as possible, and in the meantime should be glad to find myself preceded in the project by some of your readers.

Yours, &c.

Dingle Bank, near Liverpool,
Nov. 26. 1827.

JAMES ROLLINS.

ART. XVII. *Description of a Cucumber or Melon Pit with bevelled hollow Walls; with a Suggestion as to the Use of these Walls for other Purposes, in Gardening and Cottage Building.* By Mr. ALFRED KENDALL, C.M.H.S., Gardener to Lady Palmer, Wanlip Hall, Leicestershire.

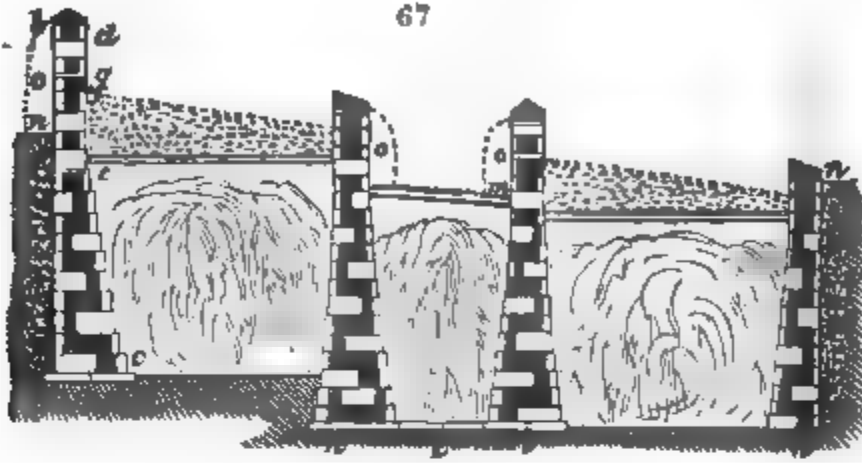
Sir,

I SEND you herewith a section (*fig.* 67.), and also a model of two forcing-pits, built with bevelled hollow walls; and, if you think the following remarks on them deserving a place in the Gardener's Magazine, they are very much at your service.

The peculiarities of these pits are the bevelling of the walls, by which they may be made of any height without piers, and with no more material than what is contained in a common hollow nine-inch wall; and the facility with which, by means of these hollow walls, a dry heat is obtained from moist dung. In other particulars these pits are not materially different from some plans which have already appeared in your *Encyclopædia* and in the Gardener's Magazine.

Supposing a cross section through two of these pits to be examined, it will present the back wall hollow, 12 in. thick at

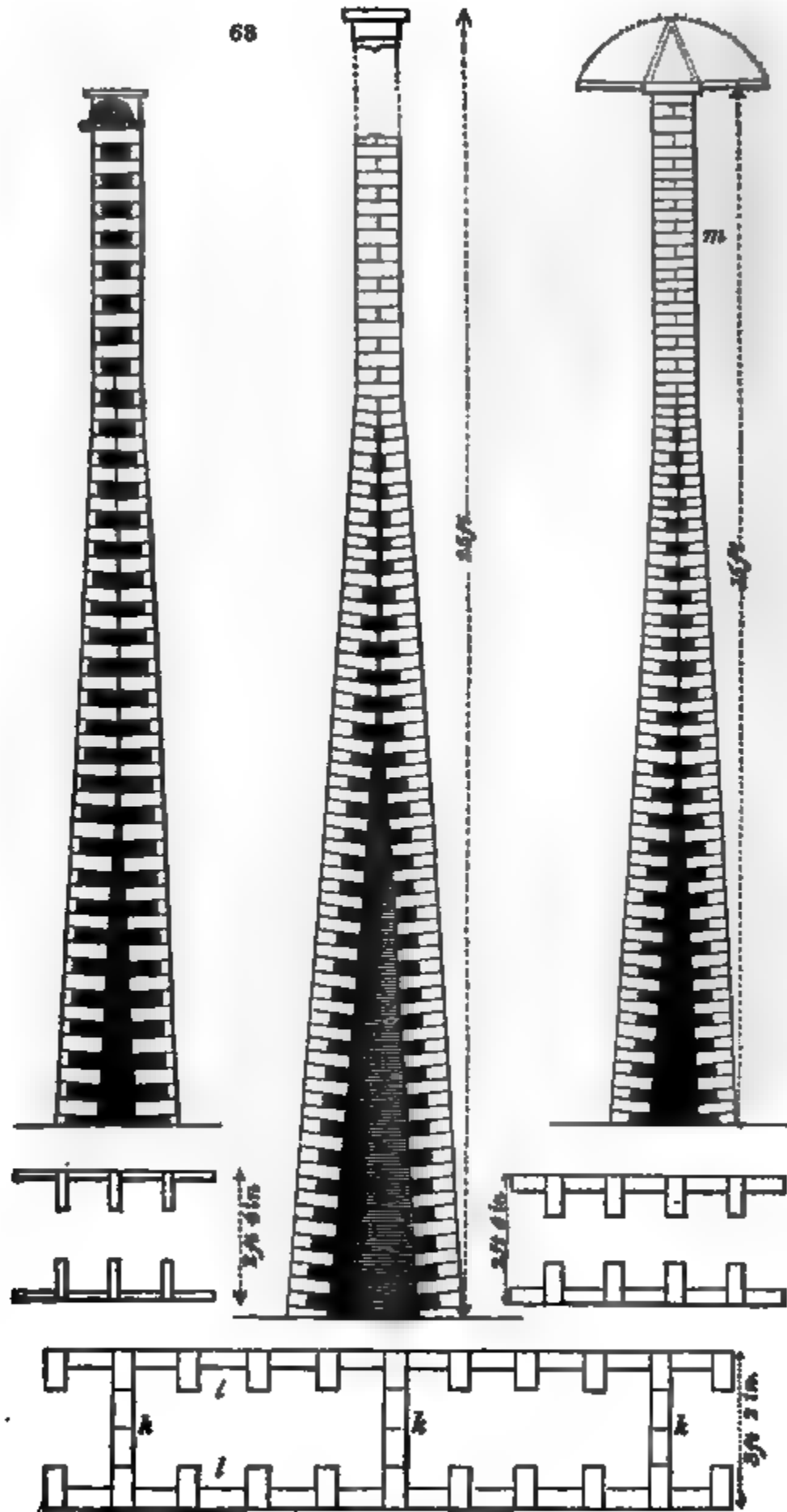
the base (*a*), and 7 ft. high; the back of the wall built perpendicular (*a b*) with common bricks, and the inner part (*c d*)



built of what are called flooring bricks, which are only about 2 in. thick. The cross bricks, which connect the two walls together, are also built of these flooring bricks, set on edge. The inner part of the wall bevels, or approaches to the outer part of the wall, from the base to the height of 4 ft. (*c*), where it is reduced to 9 in. in thickness, at which width it is continued to the top. Immediately above the intended depth of the soil of the pit (*f*) a course of bricks on edge is left out both in the back and front walls of the pit, and the walls are covered from one end to the other by a course of slates or tiles, 9 in. wide (*g*). Above this the wall is continued hollow to the top, where it is furnished with a stone or wooden coping in the usual way. The mould of the pit is supported by cross bars of cast-iron, let into the back and front walls, on which may be laid old boards, branches of fir and straw, pea-sticks, or turves, as may be most convenient. The front wall of the one pit (*h*) and the back wall of the other (*i*) are built bevelling on both sides. The front wall of the second pit (*k*) requires no description; but it is necessary to observe, that this second pit should be a foot lower in the soil than the back one, in order that the latter may not be shaded by it. The space between the pits (*l*) is for the purpose of applying a lining to heat both pits; it is covered with boards, which incline to one side, and form a gutter at their lower angle (*m*), for carrying off the rain. In very severe weather linings of litter (*e*) may be used to protect those parts of the walls which are above ground.

These pits are intended to be heated by dung, or any other fermenting substance, introduced into the vault from doors at one or both ends. While this fermenting substance supplies a moist heat to the earth over it, it will also supply a dry heat to the hollow side walls; which heat will enter the atmo-

sphere round the plants by the openings (*f g*) under the



course of tiles or slates (*g*). The moist heat, if desirable,

might easily be admitted by direct communications through the soil to the vault, made by a few bricks, a chimney-pot, or a whelmed flower-pot. Ventilators may be formed in the doors in the ends for supplying manure, in case of too great a heat in the vault; and plugs, or wooden blocks, with rings for convenient handling, may be placed in one or two places in the back and front walls, to admit, through the hot vacuity, fresh air to the plants in very severe weather. As the outer surface of the end walls will be fully exposed to the weather, they should not communicate with the side walls, but should form distinct hollow walls of themselves; and in order to prevent the escape of heat from the outer surface of the back and front walls, a space of a foot or more between them and the soil in which they are sunk should be filled up with loose stones or brick-bats (*n*).

A very convenient length for such pits will be 16 ft., in which case there may be a door at each end, with a ventilator in each door; but, if they are made longer, there must be a door in the centre of the back wall of the one pit, and of the front wall of the other, for the more easily admitting and taking out of the dung. For growing the earliest crop of cucumbers or melons, however, a double range of 16 ft. is surely sufficient for any family whatever.

This principle of building hollow walls with bevelled sides, I should think, might be adopted with advantage in the case of high garden walls, laying the bricks flat in the usual manner instead of on edge, and taking care that the coping shall project as much as if the walls were as broad at top as at bottom. Whatever might be the height of such walls, there never could be any occasion for piers, which are always inconvenient and unsightly objects in a garden. Perhaps the same principle might be advantageously applied to cottage-building, and to the erection of various descriptions of agricultural buildings. The only difficulty in constructing such walls will be that of the cross bond, which cannot conveniently be carried up in the usual manner, but must be limited to certain distances, say every third brick, at which distances brick-on-edge partitions (*fig. 68. k k*) should be carried up from the foundation to where the wall is narrowed to a brick's length. In walls not exceeding 12 ft. high, I should think the brick partitions might be dispensed with, because the two sides (*ll*) will be equivalent to two 9-inch walls, held together by their inclined position, and by the superincumbent weight of the boarded 9-inch wall (*m*). Various descriptions of coping (*nn*) might easily be contrived for such walls. I remain, Sir, &c.

ALFRED KENDALL.

Wanlip Hall, Leicestershire, July 3. 1827.

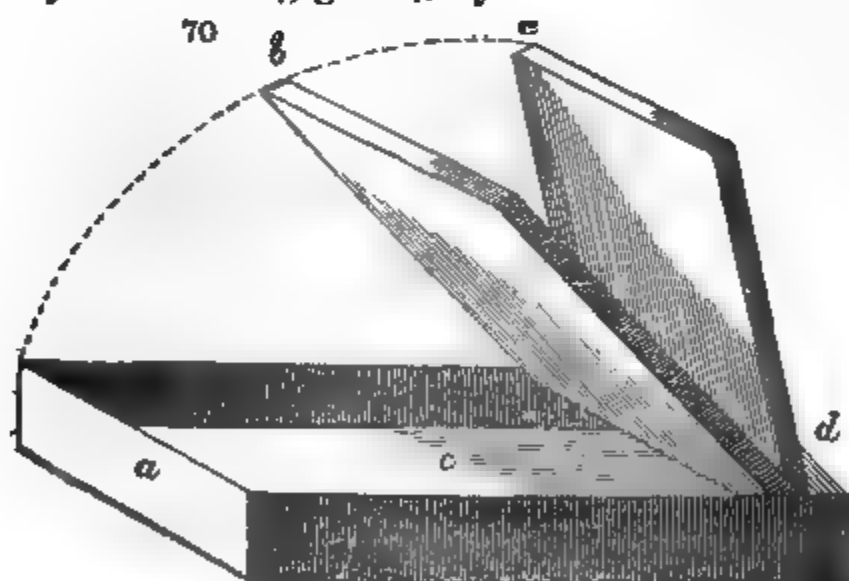
ART. XVIII. *On measuring, delineating, and describing Fruits, with a Glossary of Terms for the last Purpose.* By W. R. Y.

BOTANISTS use the term *line*, the 12th of an inch, in designating the size of the minute parts of plants; but it appears to me, that the eighth part, or octem, of an inch is a much more suitable size, as applicable to orcharding. The common foot-rule is so divided, and being carried by every master-gardener, it can always be applied either to fruits, flowers, or leaves. This rule gives ninety-six octems to a foot, and these octems being divided into halves and quarters, by the eye in applying the octem, will, it is presumed, be sufficiently accurate for every thing required in the fruit-garden. My rule (*fig. 69.*)



I made myself, of a piece of box-wood, and it extends as far as a hundred octems; but a common foot rule will do for every purpose.

I have before stated my opinion (*p. 70.*), that the easiest mode of taking the measurement of apples, is by dividing them into two parts, and taking the impression upon paper. In soft and juicy fruit, like the grape or the peach, however, this cannot be done, and I have therefore made for myself a box (*fig. 70.*), by which I have contrived to remedy

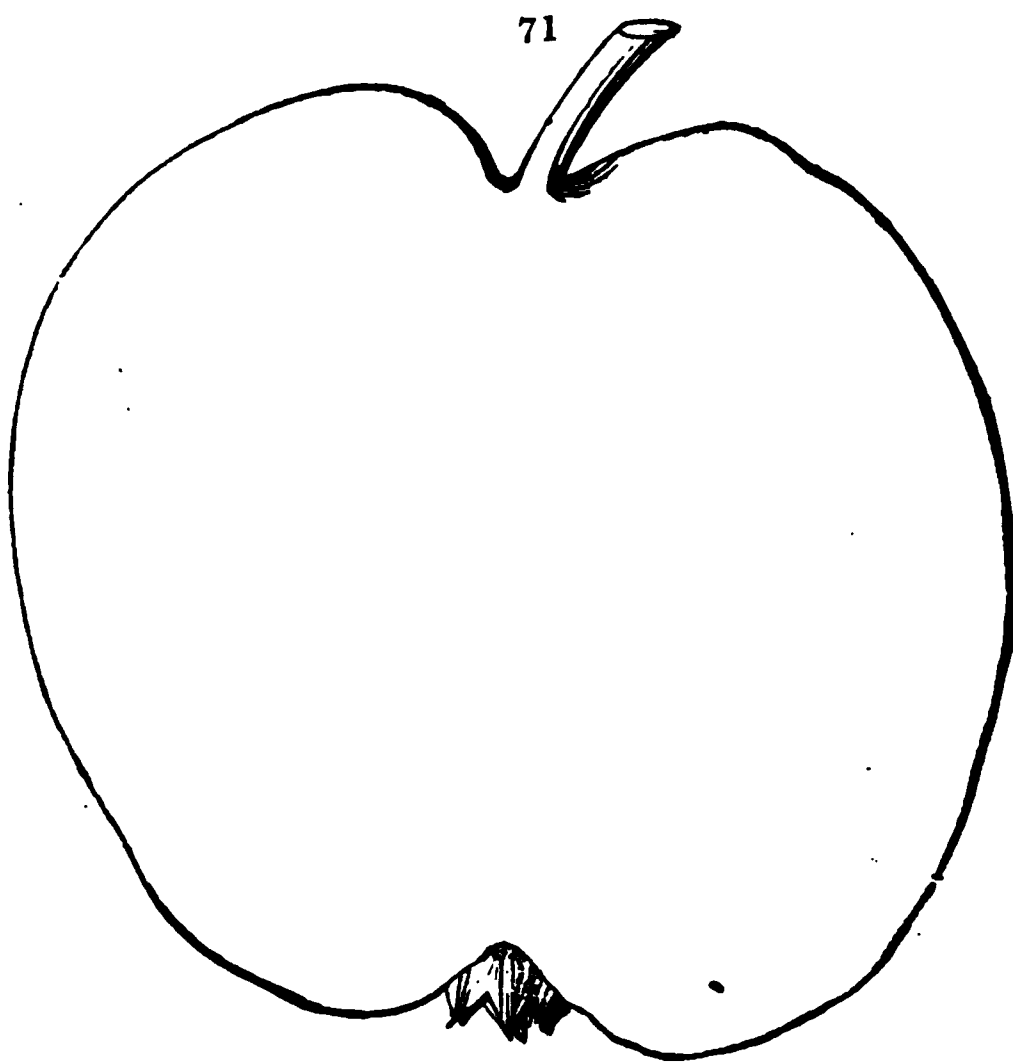


this inconvenience. This drawing-box, as I shall call it, is about 18 in. long, 9 in. broad, and 2 in. deep; it has double lids of any size less than the rims of the box (*a*); one of these lids

(*b*) is a pane of glass in a wooden frame; the other lid (*c*) is a schoolboy's slate. The lids may be slightly hinged, so as to fall back and rest upon a table or board at *d*, and so as the uppermost, or slate, lid (*c*) may fall quite out of the way of the innermost, or glass, lid (*b*).

With this box the practical man, though no draughtsman, may equally with the draughtsman take sketches of any leaf, flower, or fruit which arrests his attention. All that he has to do is to gather the leaf or fruit, and place it in his draught box until the evening. When his work is over he may then go to his box; open fully out the slate lid (*c*), place his leaf, fruit, or flower upon the middle of the glass lid (*b*), a lamp on his slate (now folded down at *d*, or removed altogether), and a sheet of white paper in the bottom of the box (at *e*). The shadow of the object placed on the glass lid will now be thrown on the paper by the lamp, and all that the gardener has to do is to trace its outline with a pen or pencil. Or, supposing the lamp placed in the position of the paper (at *e*), the glass lid (*b*) inclined backwards, and the leaf or other object laid on it, a shadow will be thrown on the slate, which may then be delineated on the slate as it was before on the paper; and the gardener may copy it from the slate on paper at his leisure.

I now submit an outline sketch (*fig. 71.*), and short de-



scription, of a Cornish crab now in my garden. It keeps from the 1st of October to May; measures 27 octems one way, and 25½ the other, taking an average-sized fruit of the produce of a dry season.

The *tree* upright, as wildings generally are; wood, hazel-coloured and smooth;

leaves dark-coloured roan, and serrated; petioles short; buds long, though not lean; petals pale pink, and medium size; stamens slender; pistillum medium length; in full bloom when the leaves are fully out. The tree a standard, a free grower, but not gross in its wood or leaves. Soil and climate: suitable for any situation, being a full bloomer, good setter, and abundant bearer.

The *fruit* like a crab, but larger; colour, when ripe, yellow green with a pink side, but losing most of the colour, and passing into golden yellow, in the fruit-room; flesh white, firm, and good; flavour very acrid and crab-like, until matured by the winter; ripe in November, and keeps till May; skin very thin, fine, and delicate; stalk shortish, dark, and slender, deeply seated in a regular base; apex deep and open; calyx nearly all retained; seeds large and turgid; cell containing the seeds capacious; used for kitchen purposes.

I am inclined to think it would be a good thing to have a glossary of terms for describing fruits and fruit trees. As a proof of the utility of such descriptions, I may state, that they might often enable us to know a bad sort of fruit before waiting for years till the tree came into bearing, and then we might easily regraft it, or cut it down as a cumberer of the ground. The following attempt at such a glossary may probably lead to something better:

Tree. — Upright, drooping, lateral, compact, straggling.

Wood. — Strong, long, slender, tomentose, smooth, rugose, long-jointed, short-jointed, spotted, plain.

Leaves. — Dark green, light green, yellow green, coarse, smooth, shining, large, small, serrated, notched, flaccid, spreading, cordate, ovate, cuculate, auricled, (with other shapes and circumstances as in botanical description,) with or without glands, persisting or dropping early, changing to yellow, red, or purple, or not changing, &c. &c.

Petioles. — Long, short, medium, slender, thick, smooth, tomentose, coloured, uncoloured.

Buds. — Short, long, turgid, lean.

Petals. — Long, short, medium, coloured, pale, white.

Scape. — Long, short, medium, slender, thick, smooth, tomentose, coloured, uncoloured.

Stamens. — Strong, slender, long, short.

Pistillum. — Strong, slender, long, short, erect, inclined.

Blooming. — When in leaf, before leafing, when the buds are opening into foliage.

Standard. — Large, small, middle-sized.

Wall. — Requires much room, little room.

Bush. — Well suited for, not suited for, &c.

Soil. — Strong, free, dry, moist, on limestone, on freestone, on clay, on loam, &c.

Climate. — Exposed, sheltered, north midland, south midland, &c.

Setter and Bearer. — Free, shy, abundant, moderate.

Shape. — Round, oval, conical, oblong, compressed, flat, turbinate.

Colour. — Pink, brick red, light red, dark red, &c. &c. &c.

Flesh. — Melting, breaking, dry, juicy, solid, firm, crisp, mealy, spongy, choaky.

Flavour. — Insipid, perfumed, sharp, brisk, sweet, acid, musky, pungent, aromatic, watery, delicate, harsh.

Ripe. — July, August, &c.

Use. — Dessert, kitchen, tarts, cider, &c.

Keeping. — Till November, retaining or losing its flavour, &c. &c.

Skin. — Thick, thin, tough, transparent, russety, coloured, striped, blotched.

Stalk. — Short, long, medium, thick, thin, slender.

Base. — Regular, irregular, shallow, deeply indented, open, narrow.

Aper. — Regular, irregular, shallow, deeply indented, open, narrow.

Calyx. — Large, small, medium, retained long, partly retained, not retained.

Seeds. — Long, short, thin, thick, lean, turgid.

Cell. — Large, small, open, capacious, hollow, compressed.

Stones. — Large, small, clings, free, smooth, rugose, long, round, large, small, &c.

Kernel. — Bitter, less bitter, sweet.

Sutures. — Deep, shallow, &c. &c.

Size. — Large, medium, circumference from the stalk to the calyx in octems, round the middle in octems.

My gouty hand prevents me from rendering this glossary as complete as I could wish ; but I send it to you as a memorandum, to go into the wide world as an uninstructed bantling (having only learned its alphabet), to receive and perfect its education under more able masters than myself.

Yours, &c.

December, 1827.

W. R. Y.

ART. XIX. *Remarks on the Cause of Curl in Potatoes.*

By a DENBIGHSHIRE GARDENER.

Sir,

SINCE my last letter, inserted in your Magazine (Vol. III. p. 19.), I have paid much attention to discover the cause of curl in potatoes. I am now convinced that it is occasioned by the depredations of a small worm. In the presence of several witnesses, and at different times, I took up rows of potatoes ; some were curled, others not : on the healthy plants not a worm could be found, but upon every one of the diseased plants I invariably found them. They lodge at the bottom of the stem, which, for an inch or more, is changed from its natural, to a pale unhealthy, colour ; the ascent of the sap is obstructed, and the leaves, not having a due supply, are deformed and diminutive. In examining the cut of the potato I discovered a small hole, which probably was the place where the egg had been laid, and where the worm was bred ; and, I suppose, as soon as the set became soft, the insect found its way to the stalk, where its damage is so visible.

If, then, this be the cause of the disease (and I beg to repeat that I have no doubt of it myself), I have now to offer an opinion as to how it happens that potatoes taken up before they are ripe escape the attack, while those which are fully ripe are liable. On this point my own mind is satisfied that it can only arise from the difference in the quality of the sap, con-

tained in a ripe and in an unripe tuber ; the former is preferred, while the latter is rejected, by the parent insect. It is now confirmed by experience, and has become a rule in practice, to prefer unripe sets to fully ripe ones, as a preventive where the curl is dreaded ; and this, I can aver, it has constantly proved in my own practice, and therefore I can confidently recommend its adoption to every cultivator of the potato.

Besides being a security against the curl, the use of unripe sets has, as I mentioned in a former letter, an advantage of incalculable value to all who either cultivate potatoes, or to whom they are a necessary of life. To the cottager, to the serving or commercial gardener, and to the agriculturist, the obtaining of a crop *a month or six weeks earlier* is a result of great importance, and, one would think, only requires to be known, to be universally followed.

At some future opportunity I shall beg to trouble you with some observations on the culture of the strawberry, which may not, I flatter myself, be unworthy of the attention of your readers.

I am, Sir, &c.

April 10. 1828.

A DENBIGHSHIRE GARDENER.

Note by Mr. Main. — It is now near forty years since it was discovered, that a waxy set of a partly ripe potato was less liable to curl than a mealy one. This fact pointed out the propriety of obtaining sets from bleak or moorland districts, where it is necessary to take up the crop before the tubers are thoroughly ripened. This change of seed, as they are called, being attended with success, suggested the idea, and induced the expedient, of taking up the potatoes intended for the next year's sets before they were ripe, and hardening them by exposure to the sun and air, to fit them to be stored safely. Many conflicting opinions have been stated respecting the cause of the curl, as well as on the rationality of the means taken to prevent it. Mr. Knight deems the property of mealiness an over-maturity of the plant, and therefore seems to conclude, that a perfectly healthy plant can hardly be expected from a mealy set. Others, with much more reason, have supposed the curl to be an endemical attack, happening in any district a certain number of years after the introduction of the potato, from neglecting to change the kind, or from some atmospheric influence not easily accounted for. The history of the plant shows that the curl is only a local and temporary disease ; and many districts formerly subject to it, as the neighbourhood of London, for instance, are now free from its ravages, without any care in preparing the sets, or other precaution, save only in an occasional change of seed-sets. If,

however, "A Denbighshire Gardener" is correct as to the fact (and there is no reason to suppose the contrary), it may be supposed that the depredators are migratory (no uncommon thing), and his account does not, therefore, militate against the popular history of the disease. It is to be hoped he will continue his observations on this curious circumstance, and endeavour to detect the perfect insect, which he may do, by placing a small part of the stem containing the worm under a wine glass, and watching its transformation.

ART. XX. *Asparagus improved by Irrigation.*
By Mr. W. T. FOSTER.

Sir,

WRITERS on the cultivation of asparagus generally recommend a dry sloping situation: but I have now to inform you, that I succeed best with it in circumstances quite the reverse.

I have three beds 60 yards long, four rows in each bed. These were laid down three years ago with seed. From the 1st of October to the middle of February, the beds were this last season, except about 4 rods, completely flooded to the depth of from 6 to 12 inches. When the water went off in the latter end of February, I ordered the beds to be forked over, with the intention of drying the ground, and getting the roots into health; but the shoots were appearing on every part; and on the 4th of March I cut 400 of good quality, and continued to cut 100 per day ever since. Even the last frosts did not stop it: but, at such times, I took the precaution of covering such shoots as rose during the day by small flower-pots in the evening.

I cannot help thinking that the cultivation of this favourite vegetable may be improved by intentional flooding, especially where the situation will allow of it. I am the more confirmed in this idea from an early impression I had during my apprenticeship; for, where I passed that period of servitude, our asparagus beds were extensive and in single rows; the beds were covered from the alleys every autumn, leaving the latter pretty deep, and these stood full of water all winter. It is evident, therefore, that asparagus is not easily injured by water. Should these observations be of service to any of my brother gardeners, or worthy of a place in your pages, I shall feel gratified in having communicated them.

I am, Sir, &c.

Winchester, April 24. 1828.

W. T. FOSTER.

Note by Mr. Main. — We are all well aware of the effect of irrigation on meadow land; the liquid covering which excludes the chilling air, and not the light, stimulates vegetation surprisingly, it being only a denser medium, in which, perhaps, the principal food of plants exists, and where no other quality necessary for them is wanting. When motion, also, can be given, it is an additional advantage; and now, since the discovery of forming fountain wells, by which small, never-failing streams of water can be procured and carried in any direction, we really think it within the bounds of practicability (since reading the above communication) to force asparagus, and perhaps several other plants, by means of water only. It has also struck us that Mr. Foster's experience accounts most satisfactorily for the superiority of the Gravesend, Deptford, and Battersea crops of asparagus, the alluvial banks of the Thames being so near an approach to the circumstances mentioned by our correspondent.

ART. XXI. *Observations on the Cause of the imperfect Ripening of Forced Grapes.* By W. M.

Sir,

I AM surprised so little has been written on the shrivelling of grapes in forcing-houses; and it being a matter of some interest to gardeners to provide against this evil, I am induced to trouble you with a short notice, by way of calling attention to the subject, in order to excite some abler pen to explain the cause, and direct a cure for this defect in our management.

I shall shortly state my own opinion why this invariably happens in forcing-houses, and not in the open air. In the former case, the trees are unnaturally affected in respect of the temperature in which their roots and branches are placed; in the latter, both are excited equally, and in a more natural degree. In the house, the progress of the branches, with their burden of leaves and fruit, precedes the exertion of the roots; and at the very time when the greatest demand is made on the latter, they are unable to render the necessary supply: hence the imperfect swelling of the bunches. But as this does not always happen, and is, therefore, only a local misfortune, I am strongly of opinion that this can only be attributed to injudicious planting, namely, in placing the roots too deep in a clayey or retentive subsoil, and where no sufficient attempts at draining have been made. Whoever is acquainted with the

physical constitution of a plant can be at no loss to conceive how, in such unfavourable circumstances, the roots must necessarily fail in doing their duty; and must also be aware that without the roots have time, and a suitable soil in which to develop themselves, they must be incapable of yielding such a supply of nourishment as the forced state of the head requires.

I am, Sir, &c.

W. M.

East Ham, April 22. 1828.

ART. XXII. *On training the Vine on Wires downwards.* By
Mr. JOHN HAYCROFT, Gardener to the Lord Viscount
Doneraile, Doneraile.

Sir,

I MADE a communication, about twelve months since, to the Horticultural Society, on the subject of training the vine on wires downwards from the rafters (as practised by me these sixteen years past), under the impression that the mode originated with myself, having never seen or heard of it being adopted before by any other person. In reply to this, I was informed that they had received a communication to the same effect before the receipt of mine, but this was not until twelve years after I commenced on that system; from which circumstance there is a great probability that a knowledge of it must have passed through some one of the many young men who have left me and gone to London since that period.

As an illustration of the advantage attending the mode in question, I beg to state that from one house; containing seventeen rafters, I have produced 480 lb. weight of superior fruit for the family, presents, &c.; and if all the odd branches, and what were lost by occasional thinning, were brought into account, I have no hesitation in saying it would amount at least to 5 cwt., which I am satisfied is more than double the quantity I could ever procure from the old system of training to the glass.

I am, Sir, yours, &c.

JOHN HAYCROFT.

Doneraile, March, 1828.

ART. XXIII. *A Method of expelling damp Air from early Hot-beds.* By Mr. ROBERT WILSON, Leybourne Grange near Maidstone.

Sir,

YOUNG cucumber plants are liable to damp, or fog off in early forcing, in consequence of the impossibility of admitting due ventilation. To prevent any accident from this humid state of the air, I invariably, in damp or cloudy weather, set a garden pot (a No. 32.), filled with bright wood embers within the frame, covered with a tile to secure the glass above it. The pot being placed in the lower part of the frame, causes a drying agitation of air, which is immediately allowed to escape by raising the lights behind. Should the wind blow keenly, the openings are guarded by a piece of thin canvass; but as much fresh air may be admitted by this qualifying assistance of the embers, as renders the young plants robust and healthy; a very necessary consequence at this season.

I also prefer raising my seedlings in shallow pans, rather than in pots; they root better, and are more safely transplanted; which I never do till the first rough leaf is half an inch broad.

I am, Sir, &c.

ROBERT WILSON.

Leybourne Grange, Dec. 14. 1827.

ART. XXIV. *Method of preparing a Rice Plantation, and raising the Crop, in South Carolina, United States.* By Mr. A. MIDDLETON, formerly Resident Manager of an Estate in Carolina.

Sir,

No land can answer for this purpose unless it can be inundated; for which reason it is generally selected by the side of a river. It is undoubtedly from its local advantages principally, that South Carolina so far excels in the production of this article.

Preparation.—The piece of ground intended for rice is first surrounded by a bulwark at least 2 ft. above high water mark. The surface of the ground must be level, and higher than the river at low water, and divided into parts of from 10 to 20 acres, according to the number of hands to be employed. Eight canals are formed throughout each division, and the divisions are so constructed as that they may be irrigated separately or altogether, as may be necessary. Smaller canals are likewise cut

through the different fields, on purpose that the water may be more gently introduced, and more speedily carried off. Sluices are erected at the entries of the large canals, in such a manner as that the water in the interior may be regulated to the necessary depth, according to the season, and drawn off again when necessary.

Sowing, &c. — The ground is prepared for the reception of the seed in the months of November, December, and January. The work is principally performed by negroes, though sometimes horses and mules are employed. After the preparations are completed, it is laid under water for a short time, afterwards dried, and again irrigated, until about the beginning of March, when the water is again drawn off, the canals cleaned previously to sowing (should the canals and embankments be in bad repair, the winter inundation is omitted, and that season taken to make all complete), which commences about the 12th of April, and is commonly over by the 20th of that month. The rice is thickly sown in drills, about 9 in. apart, which insures an abundant crop.

As soon as the sowing is ended, the ground is laid under water to the depth of from 2 to 3 in.; thus remaining till the first leaves appear above the water. The ground is then laid dry, cleaned, and again covered with water till the rice begins to come into flower, unless, in the meantime, the heat of the weather causes the water to become putrid; in which case it is let off, the crop cleaned again, if necessary, and immediately fresh water admitted. At the commencement of the flowering, irrigation is discontinued; but, when ripening, should the season be dry, water is introduced occasionally, just to moisten the ground.

Reaping and threshing are performed nearly in the same manner as in this country. The cleaning mills are driven by the return tides.

I am, Sir, &c.

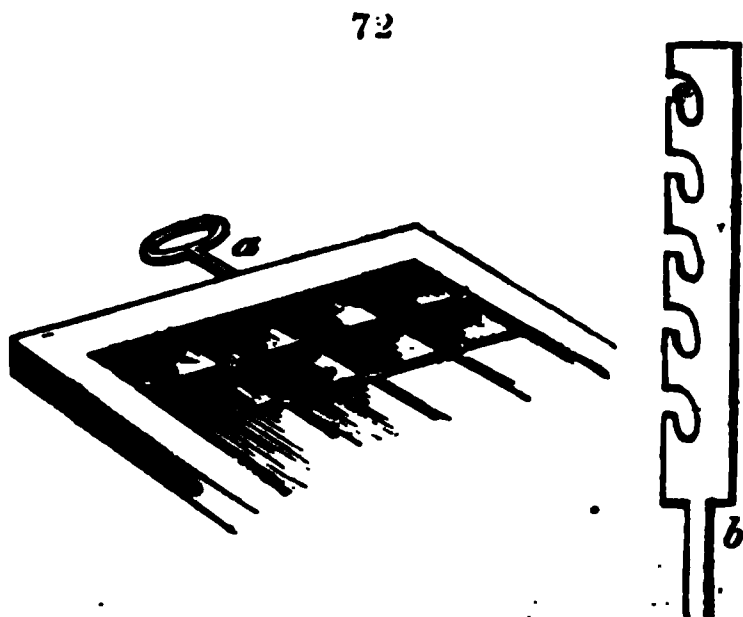
Clapton Nursery, September, 1827.

A. MIDDLETON.

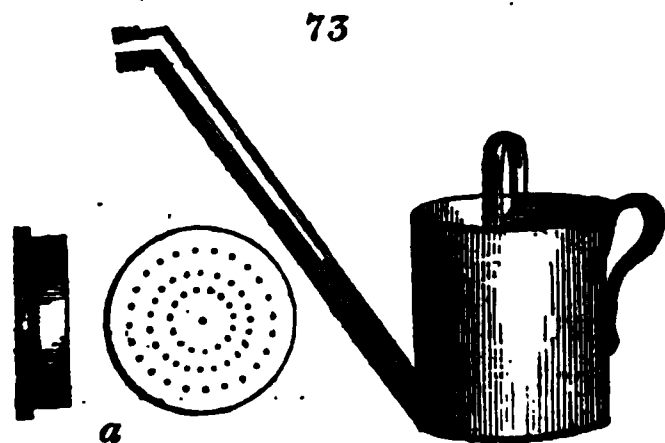
ART. XXV. *Abridged Communications.*

A BETTER Tilt forelevating the Sashes of Hot-bed Frames. — Sir, Having seen accidents happen to lights of garden frames, occasioned by sudden gusts of wind, at a time when the plants in the frames required a large quantity of air, and it was yet not eligible to draw the lights quite off, I think, if some better instrument for the elevation of the lights than any I have hitherto observed were adopted, some at least of these

accidents might be avoided. If, for instance, instead of a triangular piece of wood, with or without notches, or sometimes a brick-bat or a flower-pot, something of iron were used, of the shape here imperfectly shown (*fig. 72.*), with notches to admit the handle of the light, the handle being made with a kind of stem to it (*a*), and the tilt with a shoulder (*b*), to fit into a square staple in the back of the frame, the sash would not be so liable to be blown off, nor to run down, followed by what should have supported it, breaking, perhaps, some favourite plant, or smashing a pot of choice cuttings, with some squares of glass into the bargain. If you should think proper to give this rude attempt a corner in one of your pages, it may stimulate a much better hand to do something to the purpose, and which may be much more satisfactory. If so, I shall have gained my end. I am, Sir, &c. — *Wm. Hurst. Hitcham, Feb. 5. 1828.*



Improvements in Watering-Pots. — A pierced rose (*fig. 73. a*) is screwed on to the end of the spout, and the latter is curved very close to the end. The advantage of having the curve so near to the end is, that, in watering plants in pots, the water is stopped from running by a very slight elevation of the spout. The spout should be about 2 ft. long, and about



the same width throughout its length. — *Cacale. Bath, Oct. 12. 1827.*

Changing the Position of the Branches of Apple Trees, for the Purpose of bringing them sooner into a bearing State. — I first train in the common fan way; and, after getting five or six leading branches, take the opportunity of mild favourable weather, about the first of December, and turn all the branches over to one side of the tree. This, I find, so checks the upward flow of the sap, that fruit spurs are quickly formed; and these I afterwards keep pruned according to Mr. Harrison's plan, which I think an excellent one. — *S. W. Harlow, Feb. 21. 1828.*

PART II.

REVIEWS.

ART. I. *Transactions of the Horticultural Society of London.*
Vol. VII. Part II.

THIS part contains thirteen papers, illustrated by four plates, viz. a plan of a hot-wall, by Mr. John Hay; the Malcarle, or Charles apple; *Calochortus macrocarpus*; and *C. nitidus* and *speciosus*.

1. *Account of a Mode of managing Peach Trees in an early Peach-house.* By Mr. Walter Henderson, C.M.H.S., Gardener to Walter Frederick Campbell, Esq. M.P., at Woodhall, Lanarkshire.

This paper describes a very successful method of training and managing peach trees, which the writer says he has followed for 27 years. The forcing-house is 45 ft. long, and 13 ft. 6 in. wide; the height of the front is 4 ft. 6 in. The trees are planted within the house, at the distance of 3½ ft. from the front glass, and trained up a perpendicular trellis, till within 2 ft. 3 in. of the roof sashes, at which point the trellis is carried parallel to the roof, all the way to the top. There is only one flue, which, coming from the back at the east end, runs along the border to the opposite end of the house, returns, and enters a chimney over the fireplace. Between the flue and the back wall, there is a pit filled with leaves, which, during fermentation, throws up a steam, which is considered beneficial to the health of the trees. The house is generally shut up about the 1st of December; but no fire is made for a fortnight, unless the weather is frosty, and then only on nights. In a month the buds begin to swell, and then the strongest are easily discernible; the shoots bearing them are retained, and the greater part of the remaining wood which bore last year, and all weak shoots, are cut away; and the others tied to the trellis, at distances of about from 6 in. to 9 in. apart. These shoots, during the summer, are not kept tied to the trellis, but suffered to rise upright towards the glass, where, from being regularly

thinned in their early summer growth, they do not prevent the access of sufficient air and light to the fruit. When the most kindly and well-budded shoots have been selected, shortened to from 6 in. to 1 ft. 2 in. at a strong leaf bud, and all tied to the trellis, the whole are gone over attentively, all the weakly or wrong-placed flower buds are rubbed off, and none but such as are strong and promising left. As soon as the fruit are about the size of peas, the trees are sprinkled with water on mornings; and, after the middle of March, they are sprinkled in the afternoon, to keep the air of the house moist during the night. The young wood for the next year's crop is thinned out with great care, no shoot being left which would unnecessarily crowd or uselessly encumber the trees. Sprinkling twice a week is continued till the fruit begin to swell off; but, soon after, it is discontinued, and a greater quantity of fresh air admitted, to give flavour to the fruit. At this time, too, fire-heat is dispensed with, unless the weather is cold and damp. Fresh air is even given on nights, when the weather permits. The fruit so treated is fine, and the trees continue in good health.

The sorts are the New Galande, and the Woodhall Nectarine, a seedling formerly raised at Woodhall. The crop begins to ripen about the middle of May, and continues till about the 12th of July.

Mr. Henderson adds, that he treats the peach trees on open walls in the same way, only in the latter case he nails the young shoots to the wall, in order to ripen them.

In approving this successful (and excellent, because successful) method of peach tree training, we cannot help noticing the similarity of principle between the system of the writer before us, and that of Mr. John Seymour, of Carleton Hall, as well as the mother-branch training of the French gardeners, all showing that the principle is good. — *J. M.*

2. Remarks upon the Comparative Advantages of grafting Pears upon Quince Stocks. By Thomas Torbron, F.H.S., Gardener to the Countess of Bridgewater, at Ashridge.

Working the best kinds of pears on quince stocks, as Mr. Torbron truly says, is an old, though not a generally enough adopted, custom. The effects of such a union is universally known; but no one, perhaps, could have imagined that the difference in the fertility of quince and free stocks, could have been so much as is shown by Mr. Torbron's comparison. In a careful estimate of produce, by measure and tale, as well as by space on the wall, he states that the Gansell's Bergamot, on

the quince, yielded at the rate of 15·1 to 1; the Brown Beurrée, 4·4 to 1; the Crassane, 8·2 to 1; and the Colmar, 2·8 to 1; together averaging above 7·6 in favour of the quince stocks. Such a result deserves the attention of nurserymen and the owners of small gardens. It is to be regretted that the trial was not made from trees of the same age and condition; those on quince stocks being from maiden trees planted in 1818—20, and those on free stocks from very old trees, cut down in the same years, but which had quite recovered their luxuriance and fruitfulness. To this paper a note is prefixed by Alexander Seton, Esq. F.H.S., with a view to call the attention of persons to the same object, stating, that he thinks pears grafted on quince stocks, are better adapted for stiff clayey or loamy soils than those on free stocks, and recommending this choice to planters located on such soils.

3. *Description, with Plans, of a Hot-Wall.* By Mr. John Hay, C.M.H.S. Read November 21. 1826.

No man has had more experience as a designer of horticultural buildings, nor is any one a better judge of what is necessary either for the forcing, or the simple protection, of plants, than Mr. Hay. Every thing of the kind coming from him is, therefore, deserving attention. He had noticed, in his early practice, that hot-walls were generally overheated opposite the first turn of the flue, and not heated enough at a distance from the fire. This circumstance urged him to invent some plan of equalising the heat over the whole face of the wall, so that no part should be warmer or colder than necessary. This is accomplished by having a hollow in the interior of the wall, serving as a general heat-chamber for diffusing and retaining warm air, and also smoke-flues for conveying heat throughout. The description is accompanied by a plan, which gives a perfect idea of the structure.

4. *Report upon the New or Rare Plants, which flowered in the Garden of the Horticultural Society, at Chiswick, between March 1825 and March 1826. Part II. Hardy Plants.* By Mr. John Lindley, F.L.S. &c. Assistant Secretary. Read September 4. and 18. 1827.

Trees or Shrubs.—*Ròsa Dicksòni.* Mr. Lindley says, “it is scarcely credible, that in our own country there should exist a species, which even the most sceptical of those who have studied the genus are ready to admit as a distinct form.” Yet such is the fact. It was sent to the Society in 1824, by

Mr. James Drummond, curator of the botanic garden, Cork, by whom it was discovered. It has received its name in record of the merits of the late Mr. James Dickson, an indefatigable investigator of British botany. Flowers dark red, middle-sized, appearing in June. — *Ròsa Báńksiæ*, garden variety fláva. A very handsome variety of *R. Báńksiæ*, brought from China, in 1824, by Mr. John Damper Parks. This variety flowers in the open air in the beginning of May, is perfectly hardy, and strikes easily from cuttings. It is said that it strikes so freely from cuttings, that it is common with the Chinese gardeners to engraft a cutting of *R. Báńksiæ* with any other kind they wish to propagate, and then to plant the cutting so grafted, which will readily take root. — *Ròsa alpína*, garden variety speciòsa. This is supposed to be a hybrid, between *R. alpínium* and *R. índica*. The flowers are semi-double, of a very brilliant carmine, fading into pale rose colour as the blossoms approach decay. This was raised by Mr. Drummond of Cork. The flowers appear in June and July. It goes under the name of Drummond's Thornless Rose, and is one of the most striking of the tribe. — *Pýrus arbutifòlia*. Several plants are cultivated under this name, which Mr. Lindley particularises. This was presented by Messrs. Loddiges, under the name of *Méspilus pyrifòlia*. — *Pýrus floribúnda* Lind. This species was presented by Messrs. Loddiges, under the name of *Méspilus floribúnda*. It has long been in English gardens, especially those of P. Collinson and Dr. Fothergill. — *Pýrus depréssa*. Received from the same source as the preceding, under the name of *P. prunifòlia*, a very different plant.

(*To be continued.*)

ART. II. *Transactions of the Botanical and Horticultural Society of the Counties of Durham, Northumberland, and Newcastle upon Tyne.* Vol. I. Part I. Newcastle. 8vo, pp. 76. 2s. 6d.

(*Concluded from p. 27.*)

5. *On the Culture of Sea-kale.* By Mr. Thomas Smith, Gardener to Matthew Bell, Esq., Woolsington.

The sea-kale being little known or cultivated in the district of this Society, Mr. Smith's paper becomes the more desirable, and will no doubt be the means of extending the culture of this most agreeable vegetable.

6. *On the Management of Pear and Apple Trees, and keeping their Fruits in Winter.* By Mr. William Grey, Gardener to Sir C. M. Monck, Bart., Belsay Castle.

At the winter pruning Mr. Grey cuts out all the long weak spurs, leaving strong fruit buds at regular distances. In spring, when the trees are in flower, and a frosty night happens, the trees are syringed the following morning before sunrise, with cold water, which washes off the frost rime, and keeps the flower from being damaged. When the fruit is of the size of a pigeon's egg, he thins them to two on each spur. The superabundant summer wood he shortens back to three eyes in the end of June; when these eyes have grown a few joints, he stops them again, and when they have done growing, he cuts them close out, that the spurs for next season may get the free sun and air. "I see some who let the superabundant wood grow on their trees until August, and the sap of the tree flowing to these useless shoots, causes the fruit to be small, and weakens the buds for the next season.

"When I observe the fruit on the trees to change from their dark green to a clear blush, I take them carefully from the tree, and lay a bass mat on the ground, and spread the fruit thereon. I let them remain in the sun about three days, which takes that moisture out of them which causes them to sweat; and they will keep longer when treated in this manner, than when taken from the tree and immediately stored. When stored, I find straw the best thing to lay them in."

7. *On the Cultivation of the Mushroom.* By Mr. Thomas Smith, Gardener to Matthew Bell, Esq. M.P., Woolsington.

Mr. Smith grows his mushrooms on shelves in the German manner, but understands all the other methods. His paper is plain, practical, and well calculated to extend the culture of this vegetable luxury.

8. *On the Culture of Rhubarb.* By Mr. Robert Turnbull, Gardener to the Reverend J. S. Ogle, Kirkley Hall.

Seedling plants are very properly preferred, and forcing is performed by covering with pots and warm dung, in the manner of sea-kale.

9. *On the Culture of Rhubarb.* By the Reverend R. H. Williamson.

In the Newcastle green-market, in the beginning of June, long after gooseberries are common, and, consequently, the demand for rhubarb may be supposed to have diminished, 100 rhubarb stalks sold for 5s. The object of this paper is to

render the article cheaper and more abundant, by showing how easily it may be cultivated to any extent.

10. *On the Cultivation of Asparagus.* By Mr. William Grey, Gardener to Sir Charles M. L. Monck, Bart., Belsay Castle.

Suitable directions; transplanting is preferred, and the salutary caution given, never to cut down the stalks in autumn till the sap has gone out, "as it returns to the roots, and strengthens the plants for the next season."

11. *On the Cultivation of Early Cauliflowers.* By the same.

Two years' old seed is preferred, because "all the brassica seeds are apt to run when newly saved and early sown." Mr. Grey sows on the 1st of August; plants out under hand-glasses in the beginning of October, eight under each glass; takes away half of these in the beginning of March, and plants them under hand-glasses for a second crop; takes off the glasses altogether about the 1st of April, and waters regularly in hot dry weather; because, otherwise, the cauliflower plants receive a check, and are sure to button.

12. *On the Management of fine Sorts of Auricula.* By the same.

Mr. Grey sets out with the judicious observation, that it is of more importance for a cultivator to know the climate and altitude natural to the plant which he has under his charge, than the soil. His plan of culture is simple and judicious.

13. *On the Management of Orange Trees.* By the same.

Mr. Grey has had great experience "in managing orange trees, engrafted and budded on seedling stocks; and also has seedling, orange, lemon, and shaddock trees bearing fruit. I have at present a seedling lemon tree with upwards of forty green fruit on it, likely to swell to a great size; those engrafted or budded, I observe, come sooner to a bearing state, but are never such healthy trees as the seedlings. I find I can bring a seedling orange tree into bearing in six years. I have observed the young seedling trees to put out thorns at the base of the leaf; and so long as these appear on the young wood, no fruit can be looked for, as the tree is in a luxuriant state. My method to stop this vigorous growth is this:—Mix half strong brown loam, half peat or heath earth, well together, with a little gravel, to keep the soil from binding to the roots; have pots proportionable to the size of the tree; put them into this soil, which I consider rather poor; but it keeps them in good health, and in humble growth. By this management they come sooner to a bearing state. I keep

them in that soil till I see blossom appearing, which may be looked for when no thorns push out on the young wood. After that I give them larger pots; then take compost, half strong brown loam, half vegetable mould; break some bones small, mix some in the compost, and put some in the bottom of the pots, in order to feed the roots a great length of time, and drain off superabundant water. After the fruit is set, I have observed the decaying flowers to be in a corrupt state at the base of the fruit, and cause it to drop off. In pruning orange trees, care must be taken not to shorten any young wood, as the flower generally appears at the extremity, only cutting out any cross, useless wood. I have known some head down their orange trees every year. By that treatment it is impossible for their trees to bear fruit, for in spring they bring forth strong thorny wood, and are no nearer bearing than when one year old. The brown scale is very troublesome to orange trees, and retards their growth, and makes them have a sickly, unhealthy look. If the trees are not kept clear of that insect, little good can be expected where they are. I keep my trees perfectly clear of that insect with three dressings in one year, by taking soft soap half a pound, flower of sulphur a quarter of a pound, nux vomica half an ounce; add to these six quarts of hot water (boiling water steams off a great part of the poisonous quality); keep stirring till the soap be dissolved; when cold, take a sponge and wash every leaf on the upper and under side. Three days after I find the insects all dead. I take the engine and throw pure water all over the trees, which washes all clean off. The trees look healthy, and keep clean for about four months. The temperature of an orange house should never exceed 50°, or 55° at most, fire heat. In summer I give the trees frequent artificial dews, by throwing water over them with the engine, which I think causes the fruit to be thinner in the skin than it would be in a dry heat. The watering also adds greatly to the health and beauty of the trees. By this management my trees are always clean and healthy, and bear as good crops as can be expected of trees the size I have under my cultivation. I took twenty-five fine-sized oranges off a seedling tree this spring, and have several in blow at this time, May 12. 1826."

The silver medal was awarded to Mr. Grey, for this and the preceding papers sent by him.

14. *On the Culture of Potatoes.* By Mr. James Tindall, Gardener to John Errington, Esq., at Beaufront House.

Mr. Tindall observed that, after a favourable winter, potatoes which had been left in the soil from defective gathering,

generally made their appearance about the time that potatoes are planted in spring. He therefore tried planting in October, protecting with litter during winter, and sheltering the tops with branches of evergreens, stuck in on each side of the rows, as in sticking peas, in spring. He also planted some of the same kind of potato, in the same soil and situation, in February, in order to compare the difference. Those planted in October made their appearance about the 20th of March; those in February, about the beginning of April. At this time the ground was forked about the October planted ones, as it had been much soddened during winter by the snow and rain; it was also watered at this time. The young potatoes might be discerned at the roots, as large as the largest Marrowfat pease; while, at the February planted sets, the fruitful runners were only beginning to shoot forth. On the 4th of June, good potatoes were taken from the October planted ones, such as could not be got from the February ones at three weeks afterwards. Cut sets are apt to rot in winter, but this is easily remedied by planting small potatoes whole.

The above mode Mr. Tindall has successfully practised since 1820, it therefore well deserves imitation in every part of the island, where a covering of litter will keep out the frost.

15. *On the Culture of Potatoes.* By Lieutenant West, R. N.

Mr. West quotes, from a letter in *Time's Telescope*, to show that the only way to prevent the curl, is to renew occasionally from seed. The long kidney potato, he states, flourishes best in a strong soil; the large yam, in a stiff loam; the American early, in a light rich mould; and the Irish round, in fresh newly turned up land. The best manure for the flavour of the potato, is the decomposed leaves of beech, sycamore, and willow. Well-sifted coal-ashes, with the ashes of wood and weeds, and a mixture of loose horse litter, will render a strong, stiff, clayey soil, fit for producing abundant crops. He cuts his sets about the middle of February, and places them in a box of coal-ashes and sand. When they have shot an inch in length, he plants them in drills 3 in. deep, 1 ft. between set and set, and 3 ft. between the drills.

16. *On the Culture of the Melon.* By Mr. Thomas Smith, Gardener to Matthew Bell, Esq., Woolsington.

17. *On the Culture of Endive.* By the same.

18. *On the Cultivation of Lettuce.* By the same.

Three good and useful papers, for the first and second of which silver medals were awarded to Mr. Smith.

19. *On the Cultivation of the Vine.* By Mr. James Tindal, Gardener to John Errington, Esq., Beaufront House.

Mr. Tindal recommends great attention to be paid to the border for the roots; it ought to be laid perfectly dry; it may be 4 ft. deep, or less; and the lower stratum, of 2 ft. in thickness, ought to be of a lighter and more porous soil than the stratum above it, otherwise, in a few years, it will become quite unfit for the roots of the vines, and cause their fibres to become quite black and rotten. The spurring in method of pruning is preferred, leaving the spurs about 1 ft. apart, and about two eyes to each spur; and stopping all the summer shoots two eyes before the fruit, excepting the leader, which should be laid in at full length.

20. *On growing Vines in Pots.* By a young Gardener. [Mr. Houseman (p. 102.), a young man not without intellect, and great activity of mind, and who, if he were abundantly supplied with books, would make a good use of them.]

Two or three dozen of vines are recommended to be kept in pots, and placed in the forcing-house or pit, at different periods, from December till March, according to the time when ripe fruit is wanted. [Mr. Houseman informed us, that he has begun to force in December, and had an abundant crop of ripe fruit in March.] "A pot of 12 in. diameter, and 14 in. deep, filled with rich compost, will nourish a vine bearing from six to ten bunches of grapes, of from 2 to 3 lbs. per bunch." Liquid manure should be used. The kinds recommended for this mode of culture are, the Black Corinth, or currant of the shops, which answers best; and next, the Black Hamburgh, Black Muscadine, Red or Hampton Court Hamburgh, Red Frontignac, Royal Muscadine, White Sweetwater, White Frontignac, and Pitmas White Cluster.

21. *On the Culture of Celery.* By Mr. George Gledstone, Gardener to R. Trevelyan, Esq., Netherwitton.

This paper appeared in the *Gard. Mag.*, Vol. II. p. 157.

22. *On forcing Asparagus.* By Mr. Thomas Smith, Gardener at Woolsington.

A flued pit is preferred, but Mr. Smith forces also upon old melon-beds, adding a little fresh dung to the top, so as to give a gentle warmth to the roots, and putting a lining round the bed soon afterwards, so as to keep the temperature of the air about 50° during the night and 60° during the day. Mr. Smith

observes that no root is more impatient of a strong bottom heat than that of the asparagus. The silver medal was awarded for this essay.

Such are these very useful *Transactions*. It is gratifying to find that there are so many gardeners capable of writing, and of writing well too, in a district, which compared with others may be said to be remote, and not very thickly studded with gentlemen's seats. The Society have, in our opinion, shown much good sense in publishing their *Transactions* in so portable and cheap a form, and without copper-plate engravings. There is hardly any purpose within the scope of a horticultural society, unless it be the delineating of fruits and florist's flowers, that may not be attained by uncoloured wood-cuts. Both the London and Caledonian Horticultural Societies have shown great want of judgment in respect to the engravings in their *Transactions*. There is hardly a country gentleman, we understand, in the three counties embraced by the Newcastle Society, who does not belong to it; and, as every one of them will have these *Transactions*, and lend them freely to their gardeners, we can conceive the vast good which will be done in a few years. The test will be the supplies sent to the markets of the different towns of the district. As we have elsewhere shown (*Encyc. of Gard.*, § 7711.), an improved supply will create an improved demand; and, as no extraordinary capital or skill is required for the ordinary departments of garden culture, the markets of Newcastle and Durham may, in a very few years hence, be better supplied than those of London were a few years ago. We can recollect when pine-apples and forced sea-kale were very rarely seen, and forced rhubarb-stalks were unknown, in Covent Garden. We would recommend to the Newcastle Society the subjects of sauer-kraut and blanched chiccory. (Vol. II. p. 400., and Vol. III. p. 342.)

ART. III. *Verhandlungen des Vereins zur Beforderung des Gartenbaues in den Königlich Preussischen Staaten. Transactions of the Society for the Advancement of Gardening in the Royal Prussian States. Vol. II. Berlin. 4to. 1826.*

1—4. *Extract from the Meetings of the Society, and various Opinions as to the Cause of, and Remedy for, Canker in Fruit Trees.*

M. Wiederhold is of opinion that the canker is a disease of the sap, or prepared juice, produced by unsuitable soils.

The committee appointed to examine his theory are of opinion that various causes may produce the canker, but that the chief are bruises, lopping off strong branches, or otherwise injuring a tree at a season unfavourable to vegetation; such as at the end of a wet autumn, or during great drought or heat in summer. Professor Link agrees with M. Wiederhold in thinking that the soil is the principal cause of canker; and this, we believe, is the general opinion in Britain. Wounding trees, Professor Link acknowledges, may produce canker, but only in a bad soil, and in consequence of a predisposing tendency to that disease.

5. Experiment on the Preparation and Application of a Liquid Manure for Orange Trees. By M. Kleemann.

Five bushels of rye were boiled in a copper till the grains burst; they were then taken out, the juice squeezed out of them, the grains given to cattle, and the juice returned again to the copper. Water, in which cow-dung had been steeped, was added, so as to fill the copper; and to this mixture was thrown in about 3 lbs. of saltpetre. The whole being heated and well stirred, was taken out, put into a larger vessel, and diluted with rain water. A large orange-tree was watered with it. "In a fortnight it began to push and blossom, it became much greener, and, in six weeks' time, it became so green, and grew so fast, that it might be considered one of the finest of our trees. The young fruit, which were of a sickly yellow, became green also, and grew to a good size. The tree, during the whole summer, always dried sooner than the others that were watered at the same time, and I was obliged to give it a larger quantity of water. In the three following years it produced very abundantly. I have taken 400 oranges from it this year, and it promises an equally abundant harvest for the year following. It has not been manured again with this mixture, having been transplanted into a larger tub and fresh soil, where it has nourishment enough without the aid of liquid manure. I have since used the same composition every April for such trees as were checked in their growth, and uniformly found the same result, those trees always having the darkest foliage and the largest fruit. I have also observed that trees which had suffered much from the coccus (*schild-laus*), mostly lost the insect in consequence of the application of this mixture; and I think it possible that they might be kept entirely free from it, if they were watered with the liquid for some years in succession.

"I tried this liquid with pine-apples, and found that, by applying it once, it had no effect at all in enlarging the fruit;

and, by doing it three or four times, it checked the growth of the plants."

6. *Remarks on the above Paper.* By Counsellor Ludolf.

Saline mixtures of various kinds have been applied to plants with various results. The effect of common culinary salt has been injurious whenever the weight of the salt equalled one third of the weight of the water in which it was dissolved. If the quantity of salt equalled the 300th part of the solution, the effects were various. On plants watered with solutions of sulphuric acid, no difference was observed between its effects and those of rain water. Plants which received a solution of saltpetre and sal ammoniac grew better; but those which were treated with a solution of carbonic acid and ammoniac grew most luxuriantly.

These facts lead us to suppose that the quantity of saltpetre added by M. Kleemann to his liquid manure, is appropriate to the nature and growth of orange trees. Oily and extractive liquids containing lime and sugar, and solutions of carbonic acids in water, contain almost all the necessary ingredients for the growth of plants; and, on this principle, there can be no doubt that the decoction of rye used by M. Kleemann must produce considerable effect. Moreover, the failure of this mixture with pine-apples, experienced by M. Kleemann, may serve as an additional proof that all plants do not bear a manure of salt, or, at least, do not bear salt in equal proportions.

(*To be continued.*)

ART. IV. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., published since June last, with some Account of those considered the most interesting.*

BRITAIN.

Curtis's Botanical Magazine, or Flower-Garden displayed; New Series.
Edited by Dr. Hooker. In 8vo Numbers, monthly. 3s. 6d. col.; 3s. plain.

No. XVIII. for June, contains

2826 to 2832. — *Cycas* (Greek name of a palm) *circinalis* (*circus*, a circle; stem formed of protuberant rings); *Dicœcia Polyándria*, and *Cycàdææ*. A palm, growing to the height of from 15 to 20 feet, and the male and female on different plants. It was introduced in 1700, and "is assuredly one of the most ornamental of all plants, but requiring a great deal of space for the display of its leaves." This genus of palms seems to form the link which connects the *Monocotylédones* with the *Dicotylédones*. Several botanists have questioned not only the natural family to which it belongs, but even the three great classes of the vegetable kingdom to which it ought

to be referred. Linnæus ranked it among the palms, but at the same time thought its mode of leafing referred it to the ferns. Jussieu and Ventenat ranked it with the ferns. The late Sir James Smith "looked upon it, along with *Zamia*, as constituting an intermediate order between the *Pálmas* and the *Filices*. In Persoon's *Synopsis*, the natural order *Cycadæe* is established, and the place of it suggested, corresponding with the ideas just mentioned of Sir James Smith. Our learned countryman, Mr. Brown, in his inestimable *Prædromus Floræ Novæ Hollandiæ*, has placed the order the last of the *Monocotylédones*, immediately before the *Dicotylédones*; calling the embryo, indeed, pseudo-dicotyledonous."

Solanum Balbisi (J. B. Balbis, bot. auth.). A hot-house shrub, 2 ft. high with prickly pinnatifid leaves, beautiful bluish purple flowers, and globose yellow-brown fruit, about the size of a cherry. — *Franciscus Hopeæ*; *Scrophularinæe*. "A most interesting and desirable" stove plant, sent from Brazil, by Marshal Beresford, to his sister Mrs. Thomas Hope, of Deepdene, Surrey. — *Oxalis rosea*, the *O. floribunda* of Lindley, p. 169.; *Oxalidæe*. "One of the handsomest, if not the very handsomest, of this beautiful genus, rising to the height of a foot, or a foot and a half, and covered with the fine rose-coloured blossoms, which it bears for very many weeks in succession." — *Encyclia* (*enkykloō*, to wrap round; column of fructification wrapped round by the labellum) *viridiflora*; *Orchidæe*. A stove epiphyte, of little beauty. — *Oenothera Lindleyi*. A hardy annual, a foot or 18 in. high, with linear-lanceolate leaves and delicate lilac petals, flowering in the open border from June till it is destroyed by the frosts. "A most desirable inmate of the garden. Introduced by the Horticultural Society from the north-west coast of America, where it was found in 1836, in the dry woodless part of the interior, by that zealous collector and traveller, Mr. David Douglas, who is engaged in preparing the narrative of his interesting journey, and a description of his discoveries, for publication. It has been his wish that it should bear the name of John Lindley, Esq. F.R.S., recently appointed botanical professor in the London University, and I am happy in the opportunity of thus laying it before the public."

Edwards's Botanical Register. Continued by John Lindley, F.R.S. L.S. &c. Professor of Botany in the London University. In 2vo Numbers, monthly. 4s. coloured.

No. IV. for June, contains

1152 to 1158. — *Calochortus* (*kalos*, handsome, *chortos*, a kind of grass; beautiful flowers borne on grassy herbage) *macrocarpus* (*makros*, long, *karpós*, fruit; the fruit of the other species is short and roundish); 6 and 3, and *Liliacem* (fig. 74.) A "fine plant from the undulating, dry, barren grounds around the Great Falls of the Colombia river, and on the summit of the low hills between them and the Grand Rapids, 200 miles from the ocean." It is extremely rare, but will no doubt become as well known in our gardens as the once equally rare *Tigridia Pavonia*. Stem from 1 to 2 ft. in height; leaves glaucous; flowers rich deep purple. — *Brunsvigia* (Charles Duke of Brunswick Lunenburg) *ciliaris*; 6 and 1, and *Amaryllidæe*. A Cape bulb, which very seldom flowers; the specimen figured was from the conservatory of J. H. Slater, Esq., of Newick Park, near Uckfield. "Mr. Herbert recommends it to be grown in a moderately light loam, the neck of the bulb being kept above ground, and a little sharp white sand placed in contact with the bulb. In the autumn the leaves appear; the roots should



at that time be well watered, and removed to a hot-house, where they ought to remain as long as they continue to grow. Afterwards they should be kept quite dry, but not too hot." — *Pyrus* (*peren*, the Celtic name for the pear, whence, according to De Theis, the Latins formed *pyrus*, the French *poire*, the Anglo-Saxons *pere*, and the English *pear*) *grandifolia*; *Rosaceæ Pomaceæ*. A very handsome hardy shrub, growing to the height of 4 or 5 ft., expanding its blossoms about the middle of May, quite hardy, and propagated by grafting or budding upon the whitethorn. It belongs to that section of the genus *Pyrus* of which *P. arbutifolia* is the representative. — *Orchis papilionacea*. From the south of Europe; *frama*. — *Elæagnus* (*elaia*, olive, *agnos*, chaste; resemblance and supposed virtues) *angustifolia*. A small, hardy, cinereous tree, from Egypt, "growing from 15 to 20 ft. high, with the habit of some kind of willow. Its flowers, which are produced in great quantities in the month of May, are so powerfully fragrant as to perfume all the air around them: it is for this valuable property that the tree is chiefly cultivated. Its reddish brown fruit, which is something like a small date, is only eaten by birds. There are, in the gardens of a few individuals near London, some plants, said to produce an excellent fruit, which have been raised from seed sent from Persia, under the name of *Zinzeyd*. These are the *Elæagnus orientalis*, which Bieberstein considers a mere garden variety of the species now figured. Its fruit is doubtless very good; and the flowers are reported to be even more odoriferous than those of *E. angustifolia*." — *Tillandsia* (Elias Tillands, keeper of the botanic garden at Abo) *acaulis*; 6 and 1, and *Bromeliaceæ*. "A pretty little stove epiphyte, from Rio Janeiro, to Mrs. Arnold Harrison." — *Gesneria* (Conrad Gesner, of Zurich, one of the first botanists of his age) *rutila*; *Didynam.* *Angios.*, and *Gesneriææ*. A herbaceous stove plant with scarlet flowers, growing 2 or 3 ft. high, imported from South America by the Comte de Vandes, in whose garden at Bayswater it flowered in September, 1827.

Botanical Cabinet. By Messrs. Loddiges. In 4to and 8vo Parts, monthly. Large paper, 5s.; small paper, and partially coloured, 2s. 6d.

Part CXXXIV. for June, contains

1331 to 1340. — *Ribes multiflorum*. "A native of the Carpathian mountains, a part of the world the vegetable productions of which are not so much known as they ought to be in this country, although they are so well adapted for our climate. All spring flowers are acceptable, even if, like the present, they may not be very splendid." — *Franciscea* (His Imperial Majesty, Francis of Austria) *uniflora*. Abundant in the woods of Brazil, perfuming the air with its violet-scented flowers. Introduced by R. Barclay, Esq., of Bury Hill. Stove; loam and peat; cuttings. — *Acacia Bróunei* (so named by M. Decandolle, in honour of that distinguished botanist, Mr. Robert Brown). From New South Wales, and requiring protection from frost. Easiest culture. — *Euphorbia polygonata*. — *Erica conferta*. — *Státice speciosa*. From Siberia, where it is said the dried leaves are made use of as a substitute for tea. Only to be increased by seeds; and as these have never yet been produced in England, the plant is in consequence scarce. — *Isopogon* (*isos*, equal, *pōgōn*, beard) *anemonifolius*. A pretty shrub, of dwarf growth, from New South Wales. A free flowerer, and requiring only to be defended from the cold of our winters. — *Lýthrum Græfferii* (so named by Professor Tenore, in memory of M. Græffer, a German gardener, sent out to the King of Naples, by Sir Joseph Banks, to lay out an English garden at Caserta, about 1784, and killed there by the populace in 1819. See *Encyc. of Gard.*, p. 1109.) From Italy, by Mr. Barclay, in 1825. Pretty, requires a little shelter during winter, and of the easiest culture. — *Elæagnus angustifolia*. — *Patrinia scabiosæfolia*. A hardy perennial of little beauty.

The British Flower-Garden. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s.

No. XLIV. for June, contains

Oenothera speciosa (Vol. II. p. 139. fig. 54.) — *Primula glaucescens*; Primulaceæ. A handsome and rare plant, raised by W. Anderson, F.L.S. H.S. &c., of the Chelsea garden, from seeds received from the late M. Schleicher, of Bex, who found the plant in Switzerland. "A great acquisition to the genus *Primula*," and of easy cultivation. — *Fris caucásica*. — *Cineraria aurantiaca* (fig. 75.); Compositæ Jacobææ. A very handsome alpine plant, from Switzerland, with flowers, at first of a bright orange brown, changing to a dark orange, afterwards becoming golden yellow, orange-coloured underneath, and very sweet-scented. It is very liable to rot in winter, unless grown in rockwork.



Flora Australásica. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s. coloured; 2s. plain.

No. XIII. for June, contains

49 to 52. — *Acácia myrtifolia*; Leguminosæ Mimósæ. A handsome, evergreen, bushy shrub; the branches often pendulous, when in bloom, with the weight of the flowers. "A very desirable plant for the conservatory or green-house." — *Styphelia viridiflora*; Epacridæ. A small, upright, evergreen, branching shrub, with green flowers. "Desirable for the green-house, as it continues to bloom a good part of the spring and summer, and sometimes ripens its fruit." — *Bomarea ensata*; Leguminosæ Papilionacæ. Lótææ Genístæ. A dwarf, upright, bushy shrub, with flat green branches, toothed at the edges, and brown and yellow flowers. From the rich and superiorly managed collection of Mr. Knight, in the King's Road. — *Pimelea drupacea*. An upright evergreen shrub, with few branches, and small pale reddish flowers.

The Botanic Garden. By B. Maund, F.L.S. &c. In small 4to Numbers, monthly. Large paper, 1s. 6d.; small paper, 1s.

No. XLII. for June, contains

Saponaria ocymoides (like ocymum, or basil); Caryophyllæ. A delightful little plant for ornamental rockwork. — *Calceolaria pinnata*; Scrophularinæ. — *Veronica urticifolia*; Scrophularinæ. — *Dianthus japonicus*.

The Florist's Guide and Cultivator's Directory, &c. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s. coloured; 2s. plain.

No. XIII. for June, contains

45 to 48. — Cockup's Eclipse Auricula. From Mr. Hogg, of Paddington Green. — *Oeillet Parfait Ranunculus*. From the collection of J. Goldham, Esq. F.H.S., and a very desirable plant from its elegance and diversity of colour. — House's Woodland Beauty Pink. — Goldham's Maria Tulip. A seedling raised by J. Goldham, Esq.

Medical Botany, &c. By John Stephenson, M.D., and James Morris Churchill, Esq., Surgeon. In 8vo Numbers, monthly. 3s. 6d.

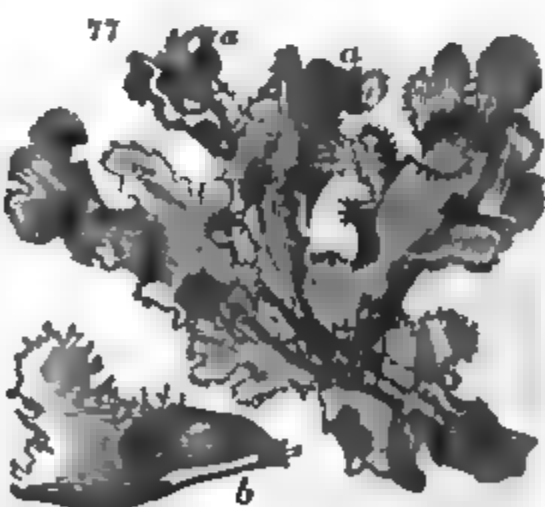
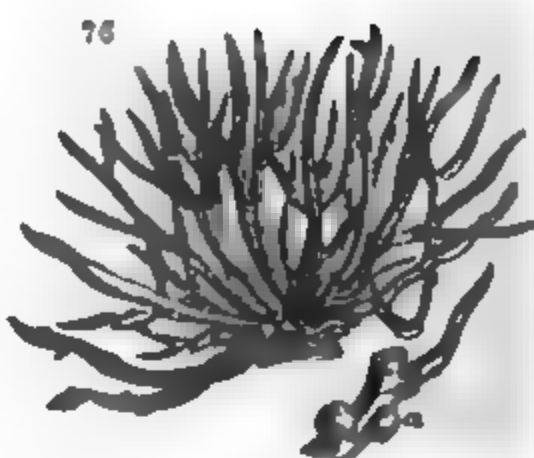
No. XVIII. for June, contains

69 to 72. — *Roccella* (*roccha*, a rock, Port.; habitat) *tinctoria* (fig. 76.), (the Orchal or Archil), Cryptogamia *Algae* Lin., and *Lichenes* Hoffm. All

this order were included by Linnæus under one genus, *Lichen*; but Dr. E. Acharius, a learned Swedish botanist, has formed the genus into a natural order, consisting of three suborders, or sections, and forty-two genera. The plants of this order generally consist of a crustaceous expansion, denominated by Linnæus the *frond*, and by Acharius the *thallus*, and commonly covered with apothecæ or tubercles, which are not very conspicuous unless magnified (a). The plant is found

sparingly on the maritime rocks of the south of England, particularly in Portland Island, and on the sea rocks of Cape Verd and the Canary Islands. In France it is used to a considerable extent, in the southern provinces, for dying silk; and there are now large manufactures of it in London and Liverpool. "The Lichen is imported to us as it is gathered, and litmus is prepared from it thus:—The plant is first dried, cleansed, and pulverised in a mill, like the oil mill. The powder is then thrown into a trough, with one half of its weight of pearl-ash; is moistened with a little human urine, and then allowed to ferment. This fermentation is kept up for some time by successive additions of urine, till the colour of the materials first changes to a purplish red, then to blue. In this state it is mixed with a third of its weight of very good potash, and spread upon deep wooden trays till dry. A quantity of chalk is added at last, apparently for the mere purpose of increasing its weight." It may here be remarked, that another species of *Rocella*, *R. fusiformis*, is reported to vie in richness of colouring matter with the common Orchal, while the plant attains to a much larger size. This species, like the former, occurs sparingly on the sea rocks of the south of Europe; but it is said to abound in the East Indies, especially on the shores of Sumatra, and might deserve the notice of some of our enterprising countrymen. It has no medicinal properties; but litmus is used in chemistry as the most delicate test, either by staining paper with it, or by infusing it in water, which will presently turn red by acids, and have the blue colour restored by an alkali.

Cetrària (*cetra*, a buckler; *receptacle*) *islandica* (fig. 77.), Iceland Lichen *Cetrària*, or Eryngo-leaved Liverwort. A native of the mountainous heaths and woods in the alpine parts of Britain. The late Sir J.E. Smith gathered it on the Pentland Hills near Edinburgh, on Ben Lomond, and in various parts of Scotland. In Sweden, Norway, and Iceland, the plant is much more luxuriant than in Britain. The plant here seldom exceeds 3 in. in height, and is erect and bushy. "The fronds form loose, elegant tufts; they are membranous, somewhat cartilaginous, channelled below, variously sinuated, and lobed; the lobes being irregularly divided, notched, and fringed at the margin with hairs. The surface of the whole vegetable is smooth, shining, of a rich chestnut brown colour, with a green tinge when wet, paler underneath. In such plants as grow in the shade, the colour is a pale brownish green. The fructification, or shields, are dark chestnut, large, polished, flat, without any border, growing close to the upper surface of the fronds (a a a, and magnified b). By analysis, 100



parts of this moss are found to contain 44 of starch, and 36 of starchy insoluble matter, so that it must be very nourishing in proportion to its bulk, and capable of yielding ardent spirit. The Saxon government lately published their report, for the information of its mountainous districts, where this moss abounds, by which it appears that 6 lbs. of lichen meal, boiled with 14 times its quantity of water, and baked in this state with 39½ lbs. of flour, produced 111 lbs. of good household bread. At present, "nearly all the Iceland moss collected in Germany, is sent through Hamburgh to this country, where it is used in brewing, and in the composition of ship-biscuit, whereby they are not attacked with worms, and suffer little from the action of seawater." Medicinally, it is used in decoction as a demulcent, equal in its effects to linseed and marshmallows. It does not cure consumption of the lungs, as some suppose; but in the last stage of that disease, when solid food is oppressive, it checks diarrhoea, and imparts vigour and nourishment to the digestive organs.

Colchicum autumnale, Autumn Colchicum, or Meadow Saffron; Colchiacæ. Used by the Greeks as a cure for the gout; and its application for the same purpose revived chiefly by Mr. Want. The principal gout specifics are, for the greater part, *Colchicum*. It is a violent purgative, and both men and swine have been poisoned by it. — *Ruta graveolens*, Fetid Rue; Rutacæ. Formerly a good deal employed for promoting perspiration, and expelling poison, but now seldom used. — *Kramèria triandra*, Triandrous Krameria, or Rhatany. An under-shrub of Brazil, with short, oblong, hairy leaves, and four-petaled, pink flowers. The roots very long, branched, and spreading; of a blackish red colour externally, red internally, and intensely styptic and bitter. A tincture of them made with brandy, approaches very nearly to the flavour, and has exactly the colour, of port wine; and it is imported to Portugal in immense quantities, and used in the manufacture of that wine. By analysis, it contains 40 per cent of tannin, and 48 per cent of woody matter, with 10 per cent of gallic acid, and a very little gum and fæcula. In medicine it is used as a tonic; and by Sir Henry Hallford, in fluor albus, with the most marked success.

The Pomological Magazine. In 8vo Numbers, monthly. 5s. coloured; 3s. 6d. plain.

No. VIII. for June, contains

29. *The Otaheite* (an absurd name, preserved to prevent confusion) *Pine Apple*, the Anson's Pine of some gardens. "The great merits of this variety are, first, its very remarkable beauty; secondly, its early period of bearing fruit; thirdly, its readiness to swell well; and, fourthly, its excellent qualities as a high-flavoured kind. The plants also occupy less space than most pines, in consequence of the erect direction of their leaves."

30. *The Madeleine de Courson Peach*. According to Mr. Lindley (in *Hort. Trans.*, vol. v. p. 539.), this is the true Red Magdalen of Miller, and very different from that of the nurseries. Excellent, ripening in the end of August or beginning of September.

31. *The Prolific Hautbois Strawberry*. Some varieties of Hautbois Strawberry have the male and female blossoms on different plants; and, as the male plants produce more vigorous runners than the female ones, the majority of plants in a plantation soon become sterile. This variety bears hermaphrodite flowers, and is, therefore, greatly to be preferred. "It is the best Hautbois we possess."

32. *The Court of Wick Pippin Apple*. A Somersetshire apple, of the highest merit, raised from a seed of the golden pippin, and to which it is little inferior.

VOL. IV. — No. 15.

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The Farmer's Register, and Monthly Magazine of Foreign and Domestic Events. Glasgow. In 8vo Numbers, Monthly. 1s.

Nos. XIII. to XVI. are before us, and bear obvious marks of improvement and an increasing correspondence. The handsome and liberal manner in which the *Quarterly Journal of Agriculture* (p. 146.) is noticed, shows the editor to be a man of sense and general views, and is alone sufficient, in our opinion, to insure respect to his publication. There is a short article on the French mode of pruning and climbing trees by means of the grimping irons, or climbing spurs, which we have described in the *Encyclopædia of Gardening* (§ 1359. fig. 153.), illustrated by a very good woodcut. Such cuts are much more expensive than the generality of readers have any idea of, otherwise we should strongly recommend their multiplication in periodicals of this description. More may often be learned by a glance at such cuts than by whole pages of description, and the time saved to the reader, now that there is so much to read, is a matter of great importance.

Winch, N. J., Esq. A.L.S., Newcastle upon Tyne: An Essay on the Geographical Distribution of Plants, through the Counties of Northumberland, Cumberland, and Durham. Newcastle. 8vo, 2d edit.

We could wish gardeners to look into this pamphlet, as well to lead their minds to generalise on the subject of the localities or habitats of plants, as to enable them to take a view of our indigenous Flora in general masses. The three counties examined possess "a Flora of 1,037 Phænogamous (*phainō*, to exhibit, *gamos*, marriage), and 1,253 Cryptogamic (*kryptō*, to hide, *gamos*, marriage) plants, of which between 40 and 50 are peculiar to Cumberland. Among the Phænogamous plants are comprised: —

28 species of trees, besides 20 willows.	17 Masked flowers (Personatæ).
13 Roses. Humboldt did not find an indigenous rose in South America, and only one species in Mexico.	94 bearing compound flowers (Compositæ).
94 Grasses.	56 species whose habitats are on the sea-coast.
20 Orchideæ.	86 Alpine plants, of which 16 are exclusively natives of the Cumberland mountains.
17 Liliaceous plants.	69 Aquatics, natives of fresh water.
17 Rough-leaved plants (Asperifoliæ).	111 Marine aquatics.
48 Umbelliferous plants.	92 British species, chiefly brought amongst ballast.
42 plants bearing cross-shaped flowers (Cruciformæ).	32 Exotics, introduced by the same means.
36 Lipped flowers (Labiatæ).	

" But the following table, which is arranged according to the system of Jussieu, whose method is well adapted to the present purpose, will give a clear idea of the natural families, and show the number of species belonging to each, contained in the whole Flora: —

First class, Acotylédones,	10 families, comprising	1,253 species.
Second, Monocotylédones,	13 families, comprising	249 species.
Third, Dicotylédones,	51 families, comprising	788 species.
	—	—
	74	2,294"
	—	—

Every page of this little tract is so interesting to a botanist, as not to admit of abridgment, and we hardly know what to extract. We shall take one paragraph, because it will prove to gardeners that the hardness of a plant does not always depend on the temperature of its native country,

and that every inhabitant of the stove and green-house ought to be tried in the open air.

“There appears something enigmatical in the causes which affect the growth of many exotic shrubs well known in gardens and plantations; for many natives of the north of Asia, Portugal, Japan, and even of South America, resist the severity of our winters much better than many which are indigenous in Italy, the South of France, and Germany. The strongest instances are those of the common myrtle, pomegranate, and oleander, all of which, though European plants, perish at a temperature no way injurious to the *Rhododéndron pónticum* of Asia Minor. This, as well as the *Rhododéndron máximum* of North America, is much more hardy than the bay, or even than the Portugal laurel; though it is probable the Pontic rose-bay may be a native of the lower ridge of Caucasus, and the American species generally grows in subalpine situations. From Pursh we learn, that *Rhododéndron máximum* var. 1. *ròseum*, which is the variety common in our gardens, is found near rivulets and lakes, in the mountains from Canada to Carolina; var. 2. *álbum*, in the shady cedar-swamps of New Jersey and Delaware; var. 3. *purpùreum*, near lakes on the highest mountains of Virginia and Carolina. The author of the *Flora of North America* is inclined to think these three distinct species. *Rhododéndron punctàtum* is also from the mountains of Carolina, at the head of the Savannah river, and *Rhododéndron catawbiense* is a native of the high mountains of Virginia and Carolina, at the head of the Catawba river. The Lapland, the Kamtschatkan, the two Swiss, and two Siberian rose-bays, are also alpine plants, and the same may be said of the rare species found on the mountains of Ceylon. This may, in some measure, account for these elegant shrubs withstanding our severe and changeable winters, though they will not thrive in the fenny parts of Lincoln or Cambridgeshire, or in Holland.

“On the coasts of Greece, Albania, and Dalmatia, I have observed the limestone rocks covered with the mastic (*Pistàcia Lentíscus*), myrtle, rosemary, *laurustinus*, common *arbutus*, and juniper. Of these, the first and second will not survive our winters; the third, fourth, and fifth will not perfect their fruit except in favourable situations, and when the season proves uncommonly mild; but the last ascends our mountains to the height of 1500 feet.

“In gardens and well-sheltered grounds, the common laurel of the Levant (*Prùnus Laurocérasus*) and Portugal laurel (*Prùnus lusitànica*) flower freely; and, provided the season be mild, ripen their fruit. The Chinese rose (*Ròsa semperflòrens*) and the cluster-flowered quince of Japan (*Cydònia speciòsa*), when protected by a wall, flower throughout open winters; and the latter has perfected its fruit at Wallington, and in similar situations. *Ròsa multiflòra* of China, *Buddlèa globòsa* of Chile, *Aúcuba japónica*, *Caméllia japónica*, and *Córchorus japónicus*, survive our severest seasons, and thrive very well; but the bay of Italy (*Laúrus nóbilis*) flowers only in the southernmost parts of Durham, and the sheltered vales of Cumberland.

“On the other hand, the Provence rose (*Ròsa centifòlia*) and the official rose (*Ròsa gállica*), said to be from the south of France, but, most probably, originally from Asia Minor, and the damask rose (*Ròsa damascèna*), from the same country, are to be met with in every garden; nor is the musk rose (*Ròsa moschàta*) of the north of Africa very scarce. The roses of Siberia, the Alps, and North America, thrive very well, as does the evergreen rose (*Ròsa sempervìrens*) of Italy and Germany, a plant confounded, by foreign botanists and British gardeners, with the white trailing dog rose (*Ròsa arvénsis*). The double yellow rose of the Levant (*Ròsa sulphùrea*) never flowers in the vicinity of Newcastle; and the same may be said of the single yellow rose (*Ròsa lùtea*) of the south of Europe, though it flourishes in the neighbourhood of Hexham, 20 miles to the west, at Norton, in the

south-east of the county of Durham, and in the vicinity of the Cumberland lakes. The white rose of the south of Europe (*Rosa álba*) has become naturalised in one spot on the banks of the Tyne."

Young, Messrs. Charles, James, and Peter, Nurserymen at Epsom in Surrey: *Hórtus Epsomensis, or a Catalogue of Plants cultivated in the Epsom Nursery. Part I.—Hardy Herbaceous Plants, Biennial and Perennial.* London. 12mo, pp. 55. 1s.

Messrs. Young have decidedly the best collection of herbaceous plants in the neighbourhood of London, and we have here a catalogue of their systematic names in alphabetical order, numbered, with the original authorities added, and marks designating such as are *Orchideæ*, *Filices*, *Suffruticose*, *Twining*, *Bulbous*, *Aquatic*, *Bog*, *Biennial*, Adapted for *Rockwork*, Protection of a *Frame* or *Mulch* in winter, Requiring *Peat* soil, *Newly* introduced. The marks for indicating these circumstances are arbitrary, and afford no help to recollection, and therefore, rather than trouble gardeners to burden their memory with such marks, we should have preferred, more especially as there is no want of room, the letters of the words which we have printed in italics: as *Orch.*, *Fil.*, *Suff.*, *Tw.*, *Bulb.*, *Aq.*, *Bog*, *Bien.*, *Rock*, *Frame*, *Peat*, *New*. Much good might have been effected by this catalogue in the way of improving the pronunciation of gardeners, had the names been accented, and, considering where it was printed, we hold Messrs. Young inexcusable for neglecting what would have cost them so very little trouble, the more so, as we advised them on the subject beforehand. The number of species enumerated is 4060, which, with very few exceptions, are purchasable by the public.

Anon.: A Dissertation on the Nature of Soils, and the Properties of Manure. To which is added, the Method of making a Universal Compost. Edin. 8vo, pp. 60.

This little work may do much good; not that it sets forth any very new discovery, but that it will call attention to many easy expedients, which are within reach of the cultivator, but too much neglected as a profitable effort in practice. After showing the advantage of the intermixture of different soils which may be found on a farm, or their amalgamation to correct each other's defects in respect of lightness or adhesiveness, the author describes the qualities and quantities of what he calls the "universal compost." It consists of

50 lb. of English potash.
36 lb. of oleous, or any animal fat, substance.
112 lb. of mineral alkali, i. e. about 2 bushels common salt.
50 lb. of quick lime, or about 1 bushel.

The expense of all these materials will cost about 1*l.* 4*s.*, and they are sufficient for an acre. — *J. M.*

Newby, Thomas: *Beta Depicta, or Remarks on Mangold Wurtzel, with an Exposition on its utility, reduced from practical Experiments, and with full Directions for its Culture, and the Management in feeding and fattening of Cattle.* London. 8vo. 4*s.*

Saunders, John: *The Kitchen-Garden Directory; or a Treatise on the Cultivation of such Vegetables as are grown in the open Air, alphabetically arranged, with Observations on the Formation of Kitchen-Gardens.* London. 12mo. 3*s.* 6*d.*

Clark, T., Jun., Nursery and Seedsman, Bridgewater: *A Catalogue of Seeds, Roots, Plants, and Books on Agriculture, Gardening, and Botany, sold at his Seed-shop.* Bridgewater. 16mo.

We notice this catalogue for the sake of expressing our approbation of the plan of seedsmen keeping a small stock of books, such as that selected by Mr. Clark. Young gardeners seldom have an opportunity of reading newspapers, or being in booksellers' shops; almost their only lounge is the seed-shop, and therefore that is the place where an opportunity should be afforded them of coming in contact with books on their art, or on the sciences more intimately connected with it.

Felton, S., Esq., Author of Miscellanies on Ancient and Modern Gardening, a Life of Sir Joshua Reynolds, and other Works; a most enthusiastic lover of gardening, possessing a mind richly stored with almost every description of literary knowledge: On the Portraits of English Authors on Gardening. London. 8vo, pp. 36. 2s.

The names of those gardeners of whom portraits have been published are given, with short historical notices; and a biographical enumeration, in chronological order, follows, of those gardening authors of whom no portraits are known to be in existence. A larger work, entitled *Gleanings on Gardens*, is announced by the same author, which, to readers of leisure, will afford considerable entertainment.

White, J., Baker, Dunbar: A Treatise on Agriculture and the Art of Baking. Dunbar. 8vo. 9s.

A Selection from German Prose Writers, with a Double Translation. London. Hunt and Clark. 8vo. 5s.

This is one of the best books ever published for acquiring a knowledge of the German language, and we can strongly recommend it to every young gardener who has that object in view.

FRANCE.

Annales de la Société d'Horticulture de Paris, &c. Paris. In 8vo Livraisons, monthly. 15 fr. in Paris, 18 fr. in London, for twelve Livraisons (one year).

Liv. III. for November, 1827, contains

1. *Mémoires, Rapports, &c.* — Notice of M. Vibert's work on the Cockchaffer. (Vol. III. p. 334.) — Report on M. Sageret's work on the culture of Cucurbitaceæ, by M. Pirolle. Gourds and pompions of every kind can be engrafted on melons of every kind; but melons of no kind will fecundate or be fecundated by gourds or pompions. Gourds, therefore, may be cultivated close to melons, without fear of adulteration. — Mr. Lindley's paper on Persian melons (Vol. II. p. 443.) is translated. — The value of Sugar-baker's Scum, as manure, is treated of. It is said to be good for melons, onions, and most herbaceous plants. It contains generally 0·75 of phosphate of lime, 0·12 of carbon, 0·11 of carbonate of lime, and 0·04 of muriate of soda, silica, alumina, and organic matter, incompletely carbonised; literally, clotted blood.

2. *Notices, Analyses, &c.* — On the culture of Camellias. — On the *Maclura aurantiaca*, which is perfectly hardy in the neighbourhood of Paris, and the timber of which is called bow-wood in Louisiana, where the tree attains a large size, and is said to be fit for various uses. The fruit, it is conjectured, may admit of as much improvement as other wild fruits, the cultivated varieties of which now decorate our tables. The milky juice, of which three fruits will yield a pint, may be found useful in medicine. — Viart's *Jardiniste Moderne*, 1 vol. 12mo, is noticed. It treats of landscape-gardening, and concludes with a description of the author's magnificent park of Bruneheu, near Etampes. We should feel much obliged to our correspondent Mr. Blaikie, if he would favour us with his opinion of this park.

3. *Mélanges et Nouvelles*. — On the necessity of the more extensive culture of the Pomegranate in gardens, with a view to the employment of the bark of its roots in medicine, by F. V. Mérat, M.D. — On the pear Monsieur. This pear was found in a wood, by a curate, near Chatillon-sur-Indre, and it has been extensively grafted, in that neighbourhood, on the quince, wild medlar, and hawthorn, on account of its large size, brightness next the sun, and excellent keeping qualities, remaining good till after Easter. Messrs. Bosc and Vilmorin consider this fruit to come very near, if not to be, the pear Saint Lezin. — On the *Truffe de Praslin*, Praslin truffle. Specimens were presented to the Society; some thought it a distinct variety, and others that it resembled those of Perigord, in the canton of Bourgoyne, known by the name of *Truffe blanc de Bourgoyne*. The remainder of this number is occupied with local notices, lists of the members, and the titles of books.

Liv. IV. for December, contains

1. *Mémoires, Rapports*. — A Letter from the Counsellor of State, Viscount Hericart de Thiery, to the Society, on the plantations of the public walks. The writer states, that the trees usually chosen for ornamenting malls or public walks, have been the horsechestnut, the lime, sycamore, and the elm; and though all these present fine masses of early foliage, they are complained of as losing their leaves too soon. It has been proposed to substitute the common acacia, as excelling all the former in beauty of flowers and foliage, and especially for its retaining its leaves later in the season; but its liability to be broken by the wind renders this fine tree unsuitable. The viscount, after noticing the inferiority of the soil about Paris for the growth of trees, and the failure of some experiments to improve it, concludes by putting questions to the Society, as to the best mode of preparing the ground, freeing it of the saltpetre with which it abounds, how far the gas-pipes or gas itself is detrimental, and as to what kinds of trees should be preferred. The Society replies, that the elm, the horsechestnut, and lime are most generally suitable; but, at the same time, recommends a mixture of others, viz., ash, plane, sycamore, the plane-leaved and other species of maple, beech, ailanthus, paper mulberry, tulip tree, and the black hickory. With respect to the question about the noxious qualities of gas, the Society hesitate to give a final answer, as the experiments to ascertain this point are not yet made; but, for the information of the viscount, the reporter gives an extract on the subject, from the Gardener's Magazine (Vol. I. p. 373.), which concludes the report. — Of the culture of plants called Bog or Heath earth Plants, by the Chevalier Soulange-Bodin. This is a brief history of heath land, or what is called in this country moors, of its composition, qualities, and the plants that are found on it. A part only is given in this number, and the subject is to be continued in the next.

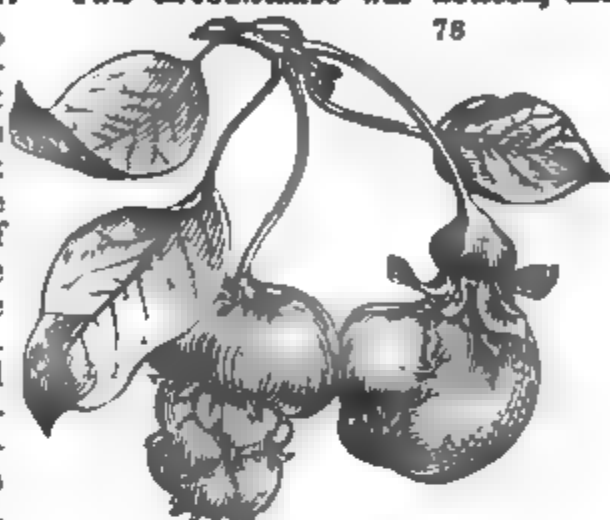
2. *Notices, Analyses, &c.* — Of the Caledonian Horticultural Society of Scotland, by the Abbé Berlèze. This is a highly complimentary account of the Society, its constitution, objects, and intentions; points out the good it has done, and will continue to do; praises all similar establishments; and concludes with the hope that the Horticultural Society of Paris will not be outshone by any other in the world.

3. *Mélanges et Nouvelles*. — Acclimating plants in the country of Limousin, by M. Laroche. Of plants which this gentleman has introduced, he mentions the elm (*l'ypreau*), or Dutch white poplar, pomegranate, *Rhamnus Jujuba*, *Ceratonia siliqua*, *Yucca*, *Hydrangea*, tree peony, oranges, hemerocallises of Japan, and pines, firs, &c. — *Camellia Porte Olive*. Under this title is noticed the introduction of the *Camellia oleifera*, which, it is expected, will be of great benefit to the south of Europe, as it flourishes in the same climate as the olive, and may become equally valuable as an oil-yielding plant. — Movement of the pistil of the *Amaryllis longifolia*. On the

29th of March, 1826, about midday, Reaumur's thermometer at 10° above zero (55° of Fahrenheit) in the hot-house, the first of five flowers composing the umbel, was observed to open, and the pistil, then in the middle of the flower, became visibly agitated, bending itself to the left, towards the stamens, where it remained half an hour before it regained its place in the centre. At the time of this collision, the observer thought he also saw peculiar movements of the anthers and divisions of the perianth. —

Monstrosity of a Crassane Pear.

This circumstance was noticed, and communicated to the Secretary, by M. Bonnet, of Rhétel (Ardennes). From the eye of the first and naturally formed fruit, arises a second, almost equalling the first in size. The pulps of both are slightly united at the point of contact, where, also, there is the remains of the first calyx; the second rotted before the other. No description of the internal structure is given. [These monstrosities in the fruit of the Crassane pear, are very common in England. In the autumn of 1827,



we saw a number in the garden at Pains Hill, and brought a curious specimen (fig. 78.) from the garden of a gentleman at Woking.] — The Economical Society of Haarlem offers gold medals for the cultivation of the wax-tree (*Myrica cerifera*) in the Netherlands, intending thereby to introduce this curious substance into economical manufacture and general use. — The Royal Agricultural Society of Caen offer a gold medal for the best essay on the means of destroying the *Coccus lanigera* on apple trees. The essay to be authenticated by experimental and practical facts, and to be presented to M. Lair, the secretary, before the 1st May, 1828. It is a pity the name of this well-known insect is not determined and fixed. In this advertisement of the Caen Society, it is called by the different names of the Apple aphid, Myzoxyle (*myzox*, to suck, *xylon*, wood), and Vinefrotter, thus making the identity uncertain.

Lin. V. for January, 1828, first of the Second Volume, contains

An Introduction, by C. Bailly de Merlieux, editor, setting forth the value of gardening, the necessity of societies for its encouragement, and the advantages which may accrue to France and the whole world from the exertions of that of Paris, united as it is with similar establishments in other countries.

1. *Mémoires, Rapports.* — The first article states the terms of the reward of 400 francs for the discovery of any cheap, easily applied, simple substance or quality, which will be fatal to the grub of the cockchafer, without injuring plants, or tending to change the nature of the soil. — Report by M. Vilmorin, upon a notice relative to the cultivation of Chinese Paddy (unmilled rice) sent to the Society by M. Jacques, head-gardener to His Royal Highness the Duke of Orleans. There are two kinds of rice, one cultivated by irrigation, which is the principal; the other does not require such treatment, and, therefore, is called dry or mountain rice. This last is sown just before the rainy season sets in; and then, having showers every day, it is soon brought to perfection. The reporter speaks of trials which have been made with this dry rice, and seems willing to believe that it may be acclimated in France or Italy; and that, probably, it might succeed from simple irrigation, instead of inundation. Then follows M. Jacques's paper to the

Society, in which he describes his management of it in frames and hot-houses.

2. *Notices, Analyses, &c.* — The first notice is an account of the old and new green-markets of Paris. Only locally interesting. — A summary of the labours of the Royal Agricultural and Commercial Society of Caen, by M. P. A. Lair, secretary. The principal trait of this paper is an account of the mealy coccus on apple trees, and what has heretofore been written on the subject. Two of the members have collected all the information on the means used for their destruction; and seem to approve most of washing with lime-water, because it frees the trees from lichens, though it does not sufficiently penetrate into the crevices of the bark, to effect the complete extirpation of the insect.

3. *Mélanges et Nouvelles.* — Under this head is given the State of Horticulture at Mons and its neighbourhood, by M. Marcellen-Vétellart, of that city. As a collector and lover of plants, and as a patron of the arts, a M. L. de Claircigny is eulogised highly. He is said to have one of the finest orangeries in France, besides hot-houses of great extent. The *Magnolia grandiflora* is said to prosper in the open air. Floriculture is encouraged, and many gentlemen of fortune and taste vie with each other in the improvement of their gardens. — MM. Catros and Gerand, of Bourdeaux, announce that they have found a new species of peach tree. It was discovered near the sea, on the Gulf of Gascony; differs from the common species by its branches growing almost perpendicularly pendent, and their being remarkably fragile, so that, in the attempt to raise them, they snap asunder like glass. It is also produced true from its seeds. It is considered more an ornamental than a fruit tree, though its fruit may be capable of amelioration. — *Robinia intermedia*. This is a hybrid obtained by the same distinguished nurserymen, by impregnation of *R. Pseudacacia* with *R. viscosa*. Its distinguishing characters are, its being less viscous; flowering after *R. Pseudacacia*, and before *R. viscosa*, this giving its specific name *intermedia*; the flower flesh-coloured, and slightly odorous; and growing more vigorously than its parents. It has been reproduced from its own seeds, and its characters promise to be permanent. — Effect of Slates in ripening Fruit, by M. M. Bauchard of Montcornet. On the south front of a dwelling-house, a wreath of the black raisin vine was trained under the windows, and also under a slated porch of the front door. The grapes under the latter, ripened sooner than those on the other parts of the tree. Hence, the writer suggests, that by a proper disposition of slates, fruits, particularly late fruits, might be ripened to perfection. — Destruction of the Cockchafer about Strasburg, by J. P. Carl. About the beginning of May, these beetles make their appearance; the inhabitants go forth with their grape-scuttles to collect them, shaking them from the trees, bushes, &c., and afterwards crushing them to death. By these means, which are never neglected, their numbers are greatly diminished. “Eighteen years ago I planted my park, and have regularly continued the chase of the cockchafer; consequently, I never have been tormented by these grubs. I have read that the water in which potatoes have been boiled will kill both grubs and eggs; this I mean to try. It is also said, in the same work, that soap-boiler’s lic kills ants, if presented to them mixed in syrup, in vessels easily entered.” — Recipe for killing Moles and Mice. Take $\frac{1}{4}$ lb. maize, 1 oz. verdigrise, 3 oz. quicklime, 12 crawfish, $\frac{1}{4}$ lb. oil of aspic (lavender). Pound and mix all well together into a paste, to which add a little river water; make up pills about the size of a nut, and lay them on the passages of the moles and mice. M. Millier de Ribaucourt states, that as moles are the natural enemies of the grubs, they (the moles) should not be destroyed. At the same time, it was stated by M. Fulchiron, that he remembered, when a boy, to have heard the destruction of the cockchafer recommended, and that his parents used to defend their trees by watering them with a decoction of green walnut shells.

Liv. VI. for February, contains

1. *Mémoires, Rapports.* — Continuation of Description of Bog earth Plants, by M. le Chevalier Soulange-Bodin. — History of the genus *Magnolia*, to which is added a short account of American plants, and those from other countries, which are cultivated in peat earth, and which bear the open air. — On the method of treating the layers or cuttings of the *Abies lanceolata* Per. (*Cunninghamia lanceolata* R. Br., Vol. II. p. 410.), and *A. columbària* Dum. Courc. (*Araucària imbricata* Pav., Vol. II. p. 410.), so as to obtain trees of the same growth and character as if raised from seeds, by M. Poiteau. After noticing the difference of character between the upright and lateral shoots of these trees, and that the latter, whether as grafts or layers, never depart from their first tendency towards a horizontal direction, M. Poiteau proceeds to say that, by a little violence, the trees may be made to produce what fruit-growers call *gourmands* (glutton-shoots). From these shoots, which will rise from the bottom of the stem on the head of the tree being forcibly bent down, grafts, layers, or cuttings may be taken, which will form handsome plants. M. Poiteau adds, that the difficulty of obtaining seeds, and the known circumstance that such trees occasionally produced adventitious shoots, first suggested to Messrs. Cels and Noisette, and afterwards to M. Soulange-Bodin, the practicability of propagating them by cuttings. — Report from the Committee of Fruit Trees, on three pears examined by M. Du Petit-Thouars. In this paper, a great deal is said about the difficulty of identifying fruits by nurserymen's lists, and the admitted erroneousess of all fruit-catalogues; expressing properly what every one feels on the subject. It alludes to almost all that has been said and written lately on fruit trees, as well in France as in other countries, and contains much useful information.

2. *Notices, Analyses, &c.* — On the increase, cultivation, and advantages of the Egyptian or bulb-bearing Onion, by M. Vilmorin. This species, though not equal in quality to the common onion, is preferable for its earliness, abundant return, and the ease and certainty of its cultivation. It is annually propagated, by planting the bulbs produced on the stems of such as are left to run up for the purpose. — *Le Bon Jardinier* for 1828. This periodical appeared first in 1755, published by M. Alletz, of Montpellier, in the shape of a small tract, corresponding to the state of the business and the abilities of its practitioners in those days. It was continued by M. de Grace, enlarged by M. Mordaunt of Launay, carried on and augmented by Messrs. Feburier, Noisette, Vilmorin, Loiseleur, Deslongchamps, Pirolle, Boitard, &c., up to the edition published by M. Audot, which has been carefully digested by Messrs. Poiteau and Vilmorin. It has been disseminated over the whole field of horticulture, and is in every practical gardener's hand, as well in Germany as in France. It is dedicated to Her Royal Highness the Duchess of Berri, who patronises all works of public utility. — On the Winter Precautions particularly necessary in the Management of Hot-houses for Propagation, by M. le Chevalier Soulange-Bodin. These directions are only intended for novices in the art: giving air, light, and sufficient covering; keeping free from decayed leaves and moisture, by frequently wiping the bell-glasses, &c.; also plunging the pots in dry sawdust, which, he says, acts hygrometrically, in qualifying the humid state of the air. On grafting and striking cuttings he gives very rational directions.

3. *Mélanges et Nouvelles.* — Instructions for fecundating the Seeds of Pinks with each other, by M. Fries-Morel. Many beautiful varieties of pinks have been obtained by artificial impregnation. The process is as follows: Just before sunrise, open carefully the flower to be operated on, and abstract the anthers with small pincers. About eight or nine o'clock, place the ripe pollen upon the stigma of the flower, and repeat this two or three times in the course of the same day. If the act of impregnation has taken place, the flower will fade in 24 or 36 hours; but if not, the flower

will remain in full beauty; in which case, the attempt must be repeated. This should always be done in fine serene weather, and care should be taken to defend the impregnated flower from rain and mists. Plants raised from seeds which have been crossed, always bear the form of the mother, but take the colours of the male parent. Fewer seeds are produced by art than by nature alone; and the impregnated flowers are less visited by bees than others. — Questions relative to one of the varieties of White Poplar, by M. Vilmorin. This variety the writer supposes to be what is called the Maple-leaved Dutch white poplar, and the *P. nivea* of Willd.; but, without determining this, he declares that all he possesses or knows of this variety are females, and begs to call the attention of botanists to the circumstance. — On the Water Chestnut, *Trapa natans*; 4 and 1, and *Hydrocharideæ* Juss. (*Encyc. of Gard.*, § 6037.) It is noticed as a remarkable fact, that, though this plant is found in abundance in the stagnant waters of Brittany and the neighbouring countries, and its roots cried in the cities of Nantes and Angers like common chestnuts, yet it has to be cultivated in the stove in Britain. But the truth is, the plant is hardly known, and has never yet had a fair trial, in this country. Being an annual, we have little doubt it might be brought to perfection in the summer season, in a pond or cistern covered by a glass frame, or probably without any covering. It ripens its fruit perfectly in the long canal at Versailles, and the difference between the summer temperature there and in London, is not, we believe, above 4°. We wish M. Blaikie or M. Oscar le Clerc would send us over a peck or two of the nuts; we should then distribute them in such a way as to give the plant a fair trial of being acclimated. — Divers Recipes and Experiments. “My strawberry-borders were attacked by the cockchafer grub; I watered them with old lie; this renovated the plants, and weakened the attacks of the grubs. When my cherry trees were attacked by the mole-cricket (*Courtiliere* Fr., *Grilla talpa* Lin.) I had them watered with water in which some fish-offal of the town had been steeped; the trees recovered their vigour. Peach trees which had been injured by a *coup-de-soleil*, so that the fruit fell and the leaves faded, I restored by laying rotten dung over their roots.” — Notice of the Flower-Market of Paris, in January, 1828. A catalogue of the florist’s flowers and fruit trees which are exposed to sale in this seemingly well-frequented market. “If,” says the writer, “the alabasters, the porphyries, and the bronzes, would give way a little to the productions of nature, then might the laudable industry of gardeners receive a new impulse in providing objects for the taste of the amateur; and they might find a reward for their labours, if, like Madame the Comtesse de Bruce, ladies would spend their winter evenings amid ornamental trees, shrubs, and flowers.” A list of prices is given. — Summary of Work done in the Fruit, Kitchen, Flower, and Pleasure or Landscape Gardens, during the first three months of the year 1828; also Hot-beds and Frames, Forcing, &c. A clear detail of the labours of the several departments of gardening.

From the foregoing analysis, our readers will observe that the *Annals of the Paris Horticultural Society* have hitherto afforded but very little information to the English gardener. It was not, indeed, to be expected that they could do so; but they are not, on that account, the less valuable for France, where they have already given an additional impulse to the taste for gardening pursuits. This taste is as natural and universal there as it is in this or in any other part of the world. Indeed, if we consider the difference between England and France and Germany, in regard to wealth, we shall be compelled to conclude, that the greater degree of taste resides in the latter countries. In the science of horticulture, as far as respects vegetable physiology and chemistry, France is in advance of England; but in France, this scientific knowledge is confined to a few heads in Paris. As France increases in wealth, and education becomes extended, this science will be applied in practice; and an increasing demand for gar-

dening productions and good gardeners, will approximate the art and the professors to what they are in England. This result can only be the effect of general tranquillity and unrestrained international intercourse, commercial as well as intellectual; the tendency of public opinion is to this state of things, and every little movement towards it ought to be hailed with satisfaction. The Horticultural Society of Paris is another point of contact between France, Britain, the United States of America, Prussia, and, in short, the whole of the civilised world.

Butret, C.: Taille raisonnée des Arbres fruitiers, et autres Opérations relatives à leur Culture, démontrées clairement par des Raisons physiques tirées de leurs différentes Natures et de leur Manière de végéter et de fructifier. Paris. 8vo, 16th edit., pp. 84, plates. 2 frs. 25 c.

This work was strongly recommended by the late Professor Andrew Thouin; it was originally published in 1795, and in 1804 had already reached a tenth edition. M. Thouin, speaking of it about 1810, says, "it is an excellent little work, which those who occupy themselves with the pruning of fruit trees, cannot consult too frequently."

Barnier, Stanislas: Le Guide des Propriétaires et des Jardiniers pour le Choix, la Plantation, et la Culture des Arbres; ou Précis de toutes les Connaissances nécessaires pour planter les Arbres de tout Genre, tailler les Arbres fruitiers, les soigner et conserver leur Produits, avec l'Indication du Terrain qui convient à chaque Espèce, la Désignation des meilleures Variétés de Fruits, et l'Exposé des Qualités qui les rendent préférables, &c. Paris. 8vo, pp. 250, plates. 3 frs. 50 c.

A well known and generally approved work, first published in 1821.

GERMANY.

Ackermann, Dr.: Der Waidbau, &c. The Culture of Woad considered with reference to Agriculture and the Arts. Carlsruhe. 8vo. 24 kr.

The results of several experiments made in the duchy of Carlsruhe, for obtaining indigo from the woad, are given, and the profit of this description of agriculture estimated. It is, as may be supposed, said to be far more profitable than raising corn, independently altogether of the profit of manufacturing the colour from the leaves; a process which in Lincolnshire, the only part of England where the woad is cultivated, is never undertaken by the farmer. (See *Encyc. of Agr.*, § 5364.)

Neue Arten von Pelargonien deutschen Ursprungs, als Beytrag zu Rob. Sweet's Geraniaceen, mit Abbildungen und Beschreibungen. Herausgegeben von einiger deutschen Gartenfreunden; der Text von Leop. Trattinniek. Wien auf kosten der Herausgeber. In Comission bey Tendler und Manstein. 1826. New Sorts of Pelargonium, of German origin, with Figures and Descriptions. Published by a Society of Amateurs, as an Appendix to Sweet's Geraniaceæ. Printed by Leopold Trattinniek, and sold, in Vienna, by Tendler and Manstein.

HOLLAND AND THE NETHERLANDS.

Kops, M., Professor of Botany and Rural Economy at the University of Utrecht: E'tat de l'Agriculture dans le Royaume des Pays Bas pendant l'année 1825. Pamph. 8vo, pp. 163. The Hague.

The floods of 1824 rendered the state of the country, in the beginning of 1825, unfavourable for operations on the soil. The temperature of the winter of 1824-5 was very mild, and insects, especially caterpillars, were very abundant on, and very injurious to, fruit trees. In the province of Utrecht, an orchard of nine hundred trees produced only five apples.

Many acres of natural forest were entirely stripped of their leaves. The culture of chicory is going out of repute in the Netherlands, not on account of the low price of coffee, nor because coffee is preferred to chicory, but because there is no sale for the latter article in consequence of France having begun to adulterate coffee for herself, and for that purpose established manufactories of chicory at Valenciennes. The culture of the vine continues to spread towards the north, imprudently perhaps; but the reputation of the wines of the Rhine and of Moselle, is a powerful encouragement. It is natural to believe that Bacchus will not be less favourable to the Meuse than to the two other rivers; at the same time such a vintage as that of 1825 must not be expected to be of frequent occurrence. It appears, upon the whole, that agriculture is carefully pursued in the Netherlands, notwithstanding the various misfortunes, natural and political, to which the country has long been, and probably will long be subjected.

NORTH AMERICA.

Carter, N. H., Esq. : Address read before the New York Horticultural Society, at the Anniversary Celebration, on the 28th of August, 1827. New York. Pamph. 8vo, pp. 22.

The members of the New York branch of the Paris Linnæan Society were invited to participate in the festivities of the anniversary, and the form of the Address is adapted to the union of the two associations, in the exercises of the day. No country is stated to be more favourable for gardening and botany than America, and the improvements making in both are numerous, and going on with accelerated rapidity. In the ornamental department, the national taste remains to be formed. "As it is much easier to imbibe correct ideas anew, than to shake off erroneous opinions and prejudices long established, the neutrality of our taste, in some of the fine arts, is rather a matter of congratulation than of regret." (p. 13.)

"Our woods and gardens retain all the freshness and wildness of nature, without having been shorn and tortured into any of those fantastic forms, which are in violation of every principle of correct taste. Fortunately for our country, our ideas on this subject were borrowed from the land of our ancestors, at a period subsequent to its own reformation in the art of gardening; and so far as we have made any progress in the embellishment of our grounds, we have generally proceeded upon right principles. We have not, therefore, to retrace our steps, and begin *de novo*, as some other nations are now doing. Impressed, as I am, with a firm belief, that ornamental gardening is more compatible with the simplicity of our republican institutions, than are most others of the fine arts, that it has a more salutary influence on the mind and feelings, while at the same time it contributes essentially to the external beauty of a country, I feel a peculiar solicitude that it should receive a proper direction, and become a more prominent object of attention." (p. 13.)

"Let it not be supposed that I would limit the province of ornamental gardening to the walls of narrow enclosures, to flower-beds and parterres. On the contrary, its principle should be extended to the embellishment of the avenues, streets, and public squares of our cities; to the country seats of the wealthy; to the fields of our farmers; and lastly, to the ultimate home of us all, churchyards and cemeteries. In some of these particulars, the example of the French is worthy of all imitation. To them, I believe, belongs not only the first idea of botanic gardens, but the more recent improvement of uniting such institutions with public promenades; or, in other words, of combining science, taste, exercise, and amusement in one and the same establishment. Nearly every considerable town in France has ornamental grounds of this description; and the plan has been extensively adopted in

Great Britain. To the same nation is due the credit of having improved public cemeteries, by converting them into attractive, instead of repulsive objects. A proper disposition of the dead, and a becoming tribute of respect to their ashes, by seeing that churchyards are neatly enclosed, shaded with ornamental trees and shrubs, with the addition of appropriate sepulchral monuments, should certainly not be subjects of indifference to the living. Wilson, the distinguished ornithologist, made a particular request but a few hours before his death, that he might be buried in some rural spot, on the banks of the Schuylkill, where the birds might sing over his grave. The sentiment was true to nature; for, let philosophy preach as it may, our cares and anxieties, our feelings and affections, will extend to the unconscious dust.

“Of the utility of shading waste places with the luxuriant and beautiful foliage of our own forests, there can be no doubt. If the proverb which declares, that no man has fulfilled the purposes of his existence till he has planted a tree, did not emanate from Solomon, it is worthy of his wisdom and of his taste for botanical pursuits. Would to Heaven, the duty it inculcates were engraven upon the palm of the hand, and impressed upon the heart, of every citizen of the United States! Were the requisite authority delegated to me, I should feel disposed to issue an edict, setting apart a particular day, at the most suitable season, when the whole community should rally on public service, to consist exclusively in planting trees and shrubs on every vacant foot of ground, where they could conduce either to utility or ornament. They should line every road, shade every walk, and overhang every fountain.” (p. 17.)

Timber, it seems, is likely to become scarce in America as well as in England, and proprietors, whose fathers or grandfathers were compelled to cut down forests as necessary to their existence as cultivators, are now exhorted to plant oaks and pines from principles of policy and patriotism: “to be frugal of the oak, whence are to spring the fleets of a great nation, and to respect the pine, destined, perhaps, to bear the American eagle across the seas, and to waft our future navies to new victories.”

Mr. Carter concludes his elegant and judicious address, by expressing his hopes that a portion of public ground, suitable for a garden on an extensive scale, may soon be obtained for the joint use of the Horticultural and Linnean Societies.

New York Farmer, and Horticultural Repository. New York. 4to. No. I.
To be continued monthly.

This promises to be a useful work, because supported by the best practical names in the neighbourhood of the place where it is published. Among these names are our correspondents Dr. Hosack, Mr. Buel, Mr. Thorburn, Mr. Floy, and Mr. Hogg; Mr. Parmentier of Brooklyn, near New York; Mr. Wilson of Clermont, New York; Dr. Miller, the Secretary to the New York Horticultural Society; Dr. Pascalis, the President of the New York Branch of the Paris Linnean Society; and various others. In the introduction it is stated, that the work will receive the countenance of the New York Horticultural Society, and the assistance of several agricultural writers, both of America and Europe. Under such favourable auspices, there can be little doubt that this journal will deserve success, and we hope it will obtain it. We shall be happy if our pages afford anything worth extracting, thinking it cannot be less satisfactory to our correspondents than to ourselves, to be known and remembered as useful in our day and generation, in America as well as in Europe.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

QUALITIES of Timber, and Vigour, Maturity, and Decay of Trees. — The qualities of wood depend much on the state of the tree when cut down. It appears, from the experiments of M. Hartig upon wood applied as fuel, that trees which have attained maturity, without passing into decay, are the best for the production of heat. Thus, the value of an elm of 100 years is to that of one of 30 years as 12 is to 9; that of an ash of 100 years to one of 30 years as 15 to 11. When the trees begin to decay, their value rapidly diminishes. Thus, if an oak of 200 years yields wood worth 15 francs per cord, a tree of the same kind passing to decay yields wood only worth 12 francs. When the wood is used for other purposes, the advantages conferred by a mature and healthy state are still more considerable. The common elm, growing in a forest, and in good earth, acquires its full increase in 150 years; but it will live many ages, even 500 or 600 years. Large forest elms are cut down with advantage when of an age between 100 and 130 years, and then furnish a large quantity of building wood. The duration of the life of the elm depends much upon the soil; in a dry soil it becomes aged, as it were, in 40, 50, or 60 years. Elms which have been lopped live for a shorter period than the others. Those which grow by the road-side, or in thin plantations, may be cut when 70 or 80 years of age. In general, the increase of hard woods, as the oak and elm, is small at first; it successively augments until the 20th or 25th year; is then uniform until the age of 60 or 80 years; after which it sensibly diminishes. For these and other reasons, it is important that trees should be cut down when they are at their mature state, and not simply when they undergo no further increase. When the period has arrived after which the increase of the tree would be less and less from year to year, then the tree should be felled, for no advantage accrues from its remaining longer in the ground. The indications of the mature state of a tree are by no means so evident as those of decay; but still certain signs of this state, as well as of the vigorous condition of the tree, may also be observed. (*M. Bandrillac in Biblioth. Phys. Econom.*, 1826, p. 13., and in *Jam. Phil. Jour.*, Dec. 1827, p. 191.)

Venerable Orange Tree. — There is an orange tree, still living and vigorous, in the orangery at Versailles, which is well ascertained to be above 400 years old. It is designated the Bourbon, having belonged to the celebrated constable of that name in the beginning of the 16th century, and been confiscated to the crown in 1522, at which time it was 100 years old. A crown is placed on the box in which it is planted, with this inscription, "Sown in 1421." (*Extract from the Journal of the Bristol Nursery Library Society.*)

Potato Mortar. — M. Cadet-de-Vaux found mortar of lime and sand, and also that made from clay, greatly improved in durability, by mixing boiled potatoes with it. (*Bul. Un.*)

Hoven Cattle. — As the distension is chiefly occasioned by carbonic acid gas, any substance which will combine with that gas will reduce it. Such a substance is readily found in ammonia (hartshorn), a spoonful of which, infused in water, and forced down the animal's throat, completely removes the distension. (*Annales de Chimie.*)

An experimental Farm, as a school of practical husbandry for a part of central France, has been formed by the celebrated Abbé de Pradt. It is situated about a league from Avranches, on the great road from that city to Bort, in the department of Corrèze. (*For. Quart. Rev.*, February.)

Names of French Pears. — The following, among other sorts, were seedlings found in the native forests, Rambuer, Bezy-d'hery, Colmar, Virgouleuse, Silvange, &c. (*Essai Historique, &c.*, prefixed to the *Théâtre d'Agriculture de Olivier de Serres*, edition of 1804, p. 148.)

GERMANY.

Laxemburg, near Vienna, June 3. — Before giving you some account of our plant-exhibition, held on the 1st of May last, I shall enumerate the descriptions of objects for which prizes were offered: —

1. Rare and beautiful exotics highly cultivated, hardy or hot-house.
2. Ornamental plants of Europe highly cultivated, hardy or hot-house.
3. Rare and beautiful Austrian plants highly cultivated, hardy or hot-house.
4. Rare and beautiful hardy Austrian plants.
5. The handsomest plant of the family Geraniaceæ, of foreign origin.
6. The same, of indigenous origin.
7. The handsomest plant of the family Rhodoraceæ.

Plants which gained prizes last year cannot gain prizes this year.

The exhibition was held in one of the hot-houses of Prince Schwartzberg; the prizes were mostly camellias and pelargoniums. By particular request made to the emperor, plants were sent for competition from the imperial gardens at Schönbrunn, one of which, Cordylina (sp. ?), gained the first prize; but, as the emperor refused it, it was given to the Archduke Anthony for *Arèca álba*. The second prize was won by the Countess Zichy-Ferraria, for *Epàcris grandiflora*; the third by Baron Welden, for *Saxífraga Penál*; the fourth by Baron Pronay, for *Gèum coccíneum*; the fifth by Prince Metternich, for *Pelargonium pedicelatum*; the sixth by M. Klier, an amateur, for *Pelargonium Ferdinándum*; the seventh by Baron Pronay, for *Azàlea índica álba*. These plants were selected from about 500 others, produced and exhibited by eleven individuals. Among other articles exhibited was a Noisette rose, grafted on the common hazel!

A great variety of geraniums have been raised here from seed since January, 1826, chiefly by M. Klier, and a list of them has lately been published by a society of amateurs, as a supplement to Sweet's *Geraniaceæ*. The species enumerated amount to 112, of which I enclose you a list. [We have sent the list to Mr. Sweet.] (See p. 267.)

The Vegetable and Fruit Market is now pretty well supplied. About the middle of March asparagus sold at 6s. a hundred; lettuce, radishes, and small carrots were abundant; and French beans sold for from 4d. to 6d. per hundred. These prices continued till about the middle of May. Every thing is now (June 3.) much cheaper; but peas, lettuce, and cabbages are almost the only vegetables in our markets. Some forced strawberries have appeared, and a few forced cherries; plums and peaches may be had, but they are very scarce and dear.

The Dutch Botanic Garden at Schönbrunn. — Agreeably to my promise, I shall now commence short notices of the principal gardens in the neighbourhood, and send you a part in every letter till I get through the whole of them. Schönbrunn, as you know, is about a league from Vienna; the botanic garden there excels all others in Austria, in respect of the quantity, rarity, and size of the plants in the hot-houses. The collection has lately been enriched by MM. Schott and Schicht, who travelled in Brazil. There is also there a large orangery; and, through the extraordinary assiduity of our director, M. Bredemeyer, a collection has been formed of all the principal species and varieties of the genus *Citrus*. The grounds at Schönbrunn are laid out in the French style, and include a menagerie and many other ornaments and interesting scenes, all of which are at all times open to the public.

The Augarten consists of straight alleys amongst shorn trees and hedges, and near it is the forcing-garden, for raising early fruits and vegetables for the royal family. There is a large banqueting-house for the use of the public, in which any respectable man or woman may come and open a place of sale for liquors and refreshments; and as these persons pay no rent, every thing here is exceedingly cheap and very good. The gardens are the particular resort of the tradesmen of Vienna and their families.

The Burg-garten (castle garden) is a large collection of rare New Holland plants, in a range of magnificent hot-houses, finished in the year 1818. Attached to these hot-houses is a large room, which, in winter, is filled with forced flowers; and, by means of a covered walk, this range is connected with another, which contains one of the best collections of succulent plants in Germany.

The Volks-garten (garden of the people) is near the castle garden, and consists of open alleys and roads, a temple of Theseus, and a coffee-house.

Among other gardens not unworthy of notice may be enumerated Rennwegg, a private garden of the emperor's, Laxenburg, Hetzendorf, and Bellevvedere; the last contains a complete collection of Austrian plants. There is also the garden of the university, which is considered next in rank to the imperial gardens, and has lately been greatly enlarged and enriched by many new plants.

The principal commercial gardens are the nurseries of M. Rosenthal and Messrs. Held and Seidel; the latter have also an establishment at Dresden. Forest and fruit trees are here scarce and bad, because there is no demand for them. There are great numbers of persons all around Vienna who grow vegetables and common fruits, especially plums, apricots, and grapes, for the market; but these cannot be called gardeners. I am, dear Sir, &c. —
Charles Rauch.

Trifolium suaveolens. — It appears that this species of clover, which is sweet-scented, and grows vigorously on stiff clays, is coming very generally into estimation among the agriculturists of Bavaria. (*Bul. Un.*)

An Establishment at Gern in Bavaria for Agricultural Education, was commenced in the end of the year 1825, by the Baron von Closen, the proprietor of Gern. There is an experimental farm of 400 acres, and youths from 10 to 15 years of age are taken and maintained, clothed and taught, for five years, for the value of their labour, and 50 florins (under 5*l.*) entrance money. (*Econom. Neuigk.*, 1826, Nos. 26—31.)

SWITZERLAND.

Salvia glutinosa. — In some districts of Switzerland, they spread the stalks of this glutinous plant under the beds, or they draw a broom made of them gently and slowly along the floor; by this means, *unpleasant* insects get fastened to the glutinous surface of the plant, and are destroyed. (*For. Rev. and Cont. Miscell.*, Jan. 1828, p. 209.)

Leaves and Bark of Trees as Fodder for Cattle. — Near Seldun, the leaves of the nut and the elm are used in a particular manner. Gathered when in their prime, they are ground into powder. In this state they are given to swine, mixed with their customary drink, in the winter; and our author was assured that this food fattened them as well as barley-meal. In the Oberland, the bark of the young oak, peeled off in the spring, dried and ground, is found to be equally healthy and nutritive for all kinds of cattle. We mention these things, because a knowledge of them may be useful in the mountainous districts of our own country. (*For. Rev. and Cont. Miscell.*, Jan. 1828, p. 209.)

ITALY.

A new Journal of Agriculture has been published in Florence, which reckoned, on the appearance of its second number, more than 600 subscribers in Tuscany alone, a fact not only highly honourable to the editors, but also to the country at large. On this subject it is not unappropriate to remark, that the printing-presses of Florence have been doubled within the last six years. (*For. Quart. Rev.*, Feb.)

DENMARK.

The Royal Gardens of Rosenburgh are, without any exception, the first in Denmark; they are under the superintendence of P. Lindegaard, Esq., court gardener, and no other place in this country can in any way come up to them in cultivation and forcing. Every plant M. Lindegaard has under his care looks remarkably well; but what particularly attracted my attention and that of every other traveller were the vines, one instance of which may be mentioned. In 1822, M. Lindegaard planted three plants in the front of a large orangery, 160 ft. long; they were two plants of Chasselas de Fontainebleau, and one of the Parsley-leaved grape; all of them showed fruit the first summer, which was the third year from the time they had been planted as cuttings. In 1825, one plant had 14½ lbs. weight of fruit, the second plant 14 lbs., and the third plant 10 lbs. In 1823, M. Lindegaard planted four plants more. At present (1827) the whole front of the house above mentioned, except the windows, is covered with vines, consisting of five plants of Chasselas de Fontainebleau (here named White Van der Lahn), one plant of the Parsley-leaved, and one of the Blue Cluster (here named Early Leipziger, and in France Madeleine hâtive). Each plant has upwards of a hundred fine large bunches this year, which will be ripe in the course of October. The wood for next year is as strong and thick as one's finger, and so is that of every vine in this garden. The extensive walls are covered with grapes and peaches; most of the former will ripen this year without any glass covering whatever, and the greater part of the latter are now nearly ripe. Fine apricots have been gathered from the walls almost in bushels this year, and there are several old vine stocks, upwards of a century old, which are still in a flourishing state. M. Lindegaard cultivates sixteen sorts of grapes. In the month of July I saw a bed of Keen's seedling strawberry here remarkably fine, covered with very large fruit, and equal to any thing I ever saw in England. To get perfect young plants of strawberries the runners should be laid out, when the fruit is gathered, on one side of the ridge; "loosen the earth where they are to be laid, and add a little fresh mould to it; fasten them down with carnation hooks, and supply them with water, and in a couple of weeks you will have fine plants." M. Lindegaard cut a Grand Mogul melon on the 30th of August, which weighed 18 lbs. Mushrooms and sea-kale are not at all cultivated in this country, and I understand they are not much liked. Rhubarb is only grown in the botanic garden among the hardy plants, in order to complete the collection. The Coreópsis tinctória is quite as plentiful here as in England. M. Lindegaard has got a good stock of plants of *Primula sinénsis*; but the fine tribe of Camellias

is wanted very much, with the exception of some plants of the double white and single red, and of these we have very little more than a couple of dozen in the whole country. Most of the New Holland plants are unknown. A plant of the *Epacris grandiflora* is, I am told, in the botanic garden. I saw, in the month of July, a beautiful show of carnations of M. Holböll's, not inferior to Mr. Hogg's of Paddington. This gentleman has, for a number of years, cultivated carnations and auriculas in his leisure hours to a very superior degree of perfection.

Not a single ripe pine-apple has been on the table yet this year, but M. Lindegaard will have some ripe fruit in the middle of this month. I am, dear Sir, &c. — J. P. Petersen. Copenhagen, September 3. 1827.

ICELAND, GREENLAND, AND LAPLAND.

A Public Library has been formed at Reykewick, in Iceland, and Professor Rafn, Sec. Soc. Northern Antiq. at Copenhagen, is collecting gifts of books for it. In England, these gifts are to be sent to Messrs. J. and A. Arch, Booksellers, Cornhill. We have sent what has been published of our *Magazine of Natural History*; and, we doubt not, some of our readers who are authors, will adopt a similar mode of expressing their approbation and sympathy.

Vegetation in Greenland. — *Rubus Chamæmorus* never comes to maturity in Greenland, and all attempts of Saabye to raise potatoes in $68^{\circ} 40'$ could produce none larger than peas. Eyede, likewise, states that the largest trees found in Greenland were some birches in 60° and 61° , which had risen to the height of two or three fathoms, and were somewhat thicker than a man's leg or arm; whereas the height of the firs at Alten in Lapland, close upon 70° , are 70 or 80 ft. in height, and some probably even more. The horticultural experiments that have been made since my leaving Hammerfest have succeeded also beyond expectation, and the size which many of the vegetables have attained in a place a full degree north of Alten, and where the inhabitants have hitherto supposed nothing could be produced, is a strong proof that the climate is not so bad as has been hitherto imagined. (*Capell Brooke's Winter in Lapland and Sweden*, p. 206.)

Vegetation of the North Cape. — Barley and rye are cultivated at Alten, but no agriculture is carried farther north. The Scotch pine reaches Talvig in 70° ; and the Moltboer (*Rubus Chamæmorus*) flourishes to the very verge of the North Cape, in $71^{\circ} 10' 15''$, where the winter night is ten weeks in length. (*Capell Brooke's Lapland*, p. 205.)

The different Plants eaten by the Rein-deer are enumerated in Capell Brooke's *Lapland*, and amount to thirty-one species, exclusive of the *Lichen rangiferinus*, and other lichens, which constitute nearly the sole sustenance of the animal during the winter. The list alluded to will be found of some use in any future attempt to acclimatise the rein-deer in England, though it is probable the difference of climate will be found a greater obstacle than the difference of food.

RUSSIA.

Chinese Wheat. — This variety has been sown in the south of Russia, since 1810; the thickness of its spikes, the size of its grains, and the quality of its flour, have recommended it in preference to the variety commonly cultivated in that region. (*Jour. d'Agric. de Moscou*, 1824.)

A Tunnel under the Vistula, at Warsaw, has been projected. This mode of communication will be of the utmost utility, especially at the times of the breaking up of the frost, when all intercourse is interrupted. The architect is a foreigner, and has engaged to complete the work in the space of three years. (*Paris Paper*.)

NORTH AMERICA.

Messrs. Thorburn, New York. — Dear Sir, In your Magazine (Vol. II. p. 345.) I observe a notice of the seed establishment of Messrs. Thorburn of this city. I have often heard Mr. Thorburn relate the following interesting anecdotes of his life, and as you may rely on them as facts, I doubt not but they will amuse many of your readers : — Mr. Thorburn is a native of Dalkeith, near Edinburgh, and was by trade a nail-maker. In 1793 he belonged to the societies for parliamentary reform, known by the name of Friends of the People, and was a prisoner on that account at the time Muir, Palmer, and others were tried and banished. He got out of jail by the influence of friends, and landed in New York in 1794, being then in his 20th year. He followed nail-making six years in New York, when the introduction of cut-nails [nails cut out of sheet-iron by machinery] deprived him of employment. He then took to keeping a small retail grocery store; but as this did not fully occupy his time (for even now he works among his seeds and plants almost night and day), he got a quantity of common flower-pots, and painted them with green varnish colour, the sale of which exceeded his expectation. In the spring of 1801 he observed a man selling plants, the first he had ever seen for sale in the market. Carelessly passing the stand, he broke a small leaf, and it smelling agreeably, he enquired the name of the plant from which he broke it, and was told that it was the Rose geranium. Mr. Thorburn says until that moment he never knew there was such a plant in the world as a geranium. Taking another observation, he thought the plant would look well in one of his green flower-pots, to stand on the counter, to draw attention (not for the purpose of sale). However next day some one fancied the plant and pot, which were sold at a shilling advance. He next purchased two plants, and disposed of them also; soon after he had twenty or thirty, and, erecting a small stage in his shop, opposite the door, he carried on a regular trade of plant-selling. This being something novel in New York, it drew attention. Strangers, when going the rounds of curiosity, stepped in to see the plants: some wished to buy, but could not convey the plants 200 or 300 miles into the interior, and would buy the seed if it could be had; others, again, would ask for cabbage or radish seeds, &c. These enquiries set Mr. Thorburn a thinking about selling seeds; but as no one made a business of selling seeds in New York in those days, he could not find any to commence with. He related his plans and difficulties to the gardener from whom he bought all his plants, who informed him that he was now saving seeds with the intention of selling in the market the following spring; but if Mr. Thorburn would take his seeds and plants, he would keep at home and raise plants and seeds for Mr. Thorburn to sell. A bargain was struck, and he thus commenced with a stock of fifteen dollars' worth of seeds. Just as this stock was sold off, a passenger in a ship from London called, and offered to sell Mr. Thorburn a small invoice of seeds which he had brought out. On opening the cask, he found a catalogue having the time of sowing on the margin. This, Mr. Thorburn observes, was a prize to him, as it gave him the time of sowing, and also a model from which to print one for himself. After surmounting many difficulties, the seed store is now located in a building 60 ft. by 40 ft., late a meeting-house of the Society of Friends, in the very centre of business. Perhaps there is no where to be found a building so well adapted, and a seed-shop so well filled up with every thing necessary for the garden and farm, as is this establishment. Seeds, tools, pots, glasses, roots, and a library of the latest English, French, and American works on botany, gardening, &c., are kept for sale, and also for the inspection of the public (*gratis*). The seed-drawers behind the counters run the whole length of the shop. Suspended above the drawers, in handsome glazed gilt frames, is a complete set of Curtis's *Atlas*,

folio-sized, splendid and beautifully coloured plates of camellias, prize carnations, pinks, auriculas, ranunculuses, dahlias, &c. (Vol. III. p. 69.) The high windows are shaded with landscape cloth blinds, and the walls above the shelves and drawers are ornamented with elegant scenery from the Alps of Switzerland, done on French hanging paper. As you enter into the front doors, it has the most imposing appearance of any thing of the kind I ever saw, either in America or Europe. In front of the shop, to the height of the bottom of the second story windows, is a green-house, 85 ft. long, and 18 ft. wide. Through this you pass into the shop. This green-house is built on the most approved plan, and contains now about 3000 plants. Between the green-house and the street is a bed about 80 ft. by 25 ft., which, in the season, is filled with the handsomest Dutch hyacinths, tulips, &c. The whole is enclosed with a neat iron railing and two gates, where passengers are invited to walk in and look around, and only required to shut the gate behind them.

It is a fact, which I have heard the Messrs. Thorburn often mention, and which says much for the good conduct of the inhabitants, and the taste they begin to have for these beautiful works of nature, that neither by night nor day have they known any of the flowers or fruits on their premises to be taken away or in any way injured, although the oranges and lemons hang within 4 ft. of the railing fronting the streets, and may be easily reached by a hook or scape-net. The railing is only 4½ ft. high, and they keep neither man nor dog to watch by night. Their whole establishment occupies 83 ft. by 90 ft. (Observe, it is in the heart of the city.) The ground behind the shop is appropriated to hot-beds and plant-pits, and was formerly the burying ground of the Meeting, but has been very little used for that purpose for twenty years past. The Friends wishing it to be occupied as it is, sold it for a very moderate price to Messrs. Thorburn's, 20,000 dollars, I have heard. Before giving possession, the whole ground was trenched to the depth of 7 ft., and all the bones removed to a neat cemetery prepared for the purpose out of town. As the spot I have been describing, and the owners, are known to some of your readers, I have no doubt but they will be glad to hear of them. Messrs. Thorburn have done more to place gardening on a respectable footing, than any other two men in America. — *Hortulanus*. New York, July 16. 1827.

The *Cinchona*, *Epidendron*, and a variety of other plants of Brazil, have lately been introduced into French Guiana. (*Bul. Un.*)

ASIA.

The *Chayá* root of Ceylon is the *Oldenlandia umbellata* of Linnæus, and is used for dying red, orange, and purple. Although this root grows on the opposite coast and on the island of Ramissarum, that which grows in the province of Jaffna and in the island of Manar is reckoned the finest. It gives rise, in Jaffna and in the island of Manar, to a caste whose sole occupation is to dig for chayá root. (Sir A. Johnston in *Trans. of Royal Asiatic Society*, vol. i. p. 545.)

The *Tea Shrub* has been naturalised in Java with complete success, so that, sooner or later, the Chinese monopoly will come to an end, and with that end, probably, the empire will break in pieces. (*Brussels Paper.*)

ART. II. Domestic Notices.

ENGLAND.

THE *Hardy Morton Peach* was raised here from a stone of a fruit which was gathered by me in the garden of J. Morton, Esq., Rehoboth, near Dublin

Throughout its growth it has been exposed to all the vicissitudes of our climate, and appears to me the hardiest variety we are acquainted with. I had it planted in an open border which ranges north-west and south-east, for the purpose of training it as an espalier, hoping that its initiation to our climate would render its habits more suited to a productive growth than those which have been fostered in houses or against walls. The result has, to the full, realised my hopes; I soon found that its growth was too vigorous to bear the restraint of an espalier form, and therefore, in preference to employing that most prejudicial, and, at least, temporary remedy of over-luxuriance, reducing the number of the roots, I determined to train the centre branch as a standard, and the two side limbs as an espalier. It still grows most luxuriantly, and, by regular thinning of the branches of the standard part, I do not see any danger of its robbing the other parts too materially of sap; at all events, as the vigour of the tree declines, the centre branch can be reduced, or entirely removed.

This is the second year of its bearing; and this year it has borne thirty-five peaches, five of which are on the standard branch, and scarcely at all later in their ripening than those on the trained branches. The tree stands on a declivity sloping to the south. I shall be most ready to forward buds to any person who may think it desirable. I am, dear Sir, &c. — *G. W. Johnston. Great Totham, Essex, September 25. 1827.*

Ontario White Elm (Ulmus). — In the article of elms, our misfortune is the great facility of raising them from suckers and layers. If raised from suckers, they are always a sucker, and they fill the ground all round about with suckers: if raised from layers, they are always merely a limb of a tree, and they begin to branch away before they attain any height: if you attempt to prevent this by pruning, you have a nasty knotty thing, good for very little as timber, and ornamental in the eyes of those only who like to see a sort of broom at the top of a handle 40 or 50 ft. long. We have gone on at this rate till people in general actually believe that the common English elm never has any seed, than which a more false idea never entered into the head of mortal man. (*Cobbett. See Vol. III. p. 469.*)

The Coccus lanigera, Woolly Aphis, or American Blight, it is said, was first introduced from France by a Mr. Swinton, brother of the late Lord of Session Swinton, in Scotland: he was a lieutenant in the royal navy, and marrying a French lady, settled at No. 6. Sloane Street, Chelsea, where he established a foreign nursery, and published a French newspaper. That this gentleman introduced the insect to the neighbourhood of London is probable, as his collection of apples, in 1790, was sadly overrun with it; but it must have been in England long before that time, because it was common on crabs, and even thorns, in the wild copses of Buckinghamshire in 1795. It is not generally known that there are two species of *Coccus* frequent in our hedges and underwoods, designated *C. ovata* and *C. reniforme*; they are both found on the smooth bark of young ash poles or trees, and sometimes on the red willow. Both species may be collected, and they appear to yield dying matter of as deep a tint as that from the *Cactus cochinillifera*. — *J. M.*

Removal of Earth. — The taking down of this hill (at Albury, in Surrey), and the piercing of it through, were done with great expedition and cheapness, by an ingenious invention (which, Mr. Evelyn informs us, originated with him, and was first practised by his brother at Wootton); which is thus (as well as I can describe it): — They have the command of a spring in this park, which they bring in a channel to the place where they would have the sand taken away; then they underdig a convenient part of the sand, under which the water is to come, and there the water, as it were, dissolves the sand, as you see sugar dissolved in wine. In a little time after, down tumble three, four, or five loads; as soon as it is down, a fellow

or two falls a stirring of the sand in the water, to make the water, together with the sand, run the faster." (*Aubrey's Surrey*, vol. iv. p. 68.)

In *Pontey's Nursery, Plymouth*, are the following plants, chiefly new, introduced from Carthagera by Dr. Hamilton of Fareham:—*El Tarangil* and *Senilla*. Aromatic plants, and believed to be species of *Hýptis* (*hyptios*, resupinate; corolla).—*Albacca del Monte*. Genus doubtful; leaves fragrant and perennial; green-house.—*Albacca de Clavo*. Genus doubtful; odour of the leaves most delightful; green-house.—*Meloncito de Olor*, (pronounced Melonthito de Olór), *Cùcumis osmocárpon* (*osmē*, smell, *karpōs*, fruit); diœcious? Annual, fruit small, highly scented; cultivated like other melons, and, when cut down, like them producing a second crop; not unfit for the dessert, but chiefly used in America for scenting clothes.—*Arracàcha*, *Arracàcia zanthorrhýza* (yellow-rooted). "A hardy annual, which promises to answer in agriculture as well as the potato."—*Mátarátton*, *Robínia sèpium*. A handsome shrub, not unlike *Robínia Pseudacàcia*.—*Cavallónga oriòlla*, *Cérbera* (Cerberus, a watch-dog of hell, whose bite was poison; fruit) *Thevétia* (a French monk, who described Guiana). A handsome shrub, bearing fine, large, yellow, odoriferous flowers; stove; introduced 1735.—*Campanílla*, *Ipomœa cárnea*. A splendid twiner, with fine large leaves; a stove annual; introduced in 1799.—*Dividivi*, *Cæsálpínia coriària* (*coriarius*, a currier). A handsome little shrub, the pods of which are used for tanning leather. (Vol. III. p. 212.)—*Bejuco de Guaco*, a species of *Mikània*. A celebrated antidote for the bite of venomous serpents, and good for the cure of rheumatism.—*Guazùma ulmifòlia*, now *Bubròma*, (*bous*, an ox, *broma*, food; leaves and fruit are given to cattle in the West Indies). Cultivated by Miller in 1739.—*Bauhínia punctàta*, *Hippocràtea scàndens*, and *Coutàrea speciòsa*.—*W. Hamilton, M.D. Plymouth, Oct. 12.*

Douglàsia nivàlis, *Primulàceæ*, between *Prímula* and *Androsàce*.—This is a handsome little alpine, with brilliant purple flowers, which Mr. David Douglas, the Horticultural Society's collector, discovered in the Rocky Mountains in North America, in April 1827, in latitude 52° N., longitude 118° W., at an estimated elevation of 1200 ft. above the level of the sea. It is described by Mr. Lindley in *Brande's Journal* for January, 1828, who has named it after its indefatigable discoverer; a distinction to which he is richly entitled.

The Psidium Cattleyànum will stand, uninjured, a great deal of cold: one stood in a house in this nursery last winter, where the thermometer was frequently below 32°, and it ripened fruit in the beginning of October last.—*Henry Bains. York Nursery, Dec. 4. 1827.*

Bee-hives.—Mrs. M. Clifton, Mr. George Hubbard, and Mr. Thomas Morris, the united authors of a paper on bees in *Gill's Technological Repository* (vol. i.), recommend hives made of straw, cylindrical in plan, but, instead of a straw top, a flat board a full inch wider than the outside of the hive, or about 17 in. The object of this board is, that one hive may stand upon another; and thus you may make complete colonies of bees at a small expense, for three hives make a complete colony. When hives are made in this manner, they cost but 12s., but in octagon boxes, in Dr. Howison's manner (*Encyc. of Gard.*, § 1744.), 1l. 10s. "I much prefer straw hives, well made, to wooden ones, because the joints of the wood often give way, by being exposed to the weather and the perspiration of the bees, and the moth-fly (the greatest enemy they have) gets in and lays her eggs in the comb, and the warmth of the bees hatches them to their own destruction; therefore, straw hives are preferable, as well as cheaper, than wood.

"My method of *managing straw hives* is this:—When I make use of an old straw hive, I dip it into a copper of boiling water, so that if there should be any moths' eggs, they must be destroyed; but I let the hive be perfectly dry before I use it.

"My method of *feeding bees*, I think, is new. Sink a cavity in the middle of the floor, about 6 in. in diameter, like a trencher, deep enough to hold a quarter of a pint of honey, and no more. If the cavity be too deep, the bees may be suffocated. A channel must be made from the outside to communicate with the cavity in the bee board, and a piece of wood to fit close into the channel, to keep out the vermin." (*Gill's Tech. Repos.*, vol. ii. No. viii.)

Small white Slugs in Gardens are more injurious than the larger variety, because their diminutive size escapes the gardener's eye. A good way to keep them under is to make small holes, about an inch deep, and about the diameter of the little finger, round the plants which they infest. Into these holes the slugs will retreat during the day, and they may be killed there by dropping in a little salt, quicklime in powder, or by strong lime and water. — *David Spiers Lee's Nursery, June 13.*

The Thames Tunnel. — A lecture on the recent and present state of this undertaking, was lately delivered at the Royal Institution by Mr. Faraday, who concluded by expressing, in strong terms, his firm belief in its ultimate success. A considerable sum has been subscribed, and we hope the country will not lose the honour of completing this grand and singular undertaking. Gardeners, we hope, will refer to what we have said in Vol. III. p. 468.

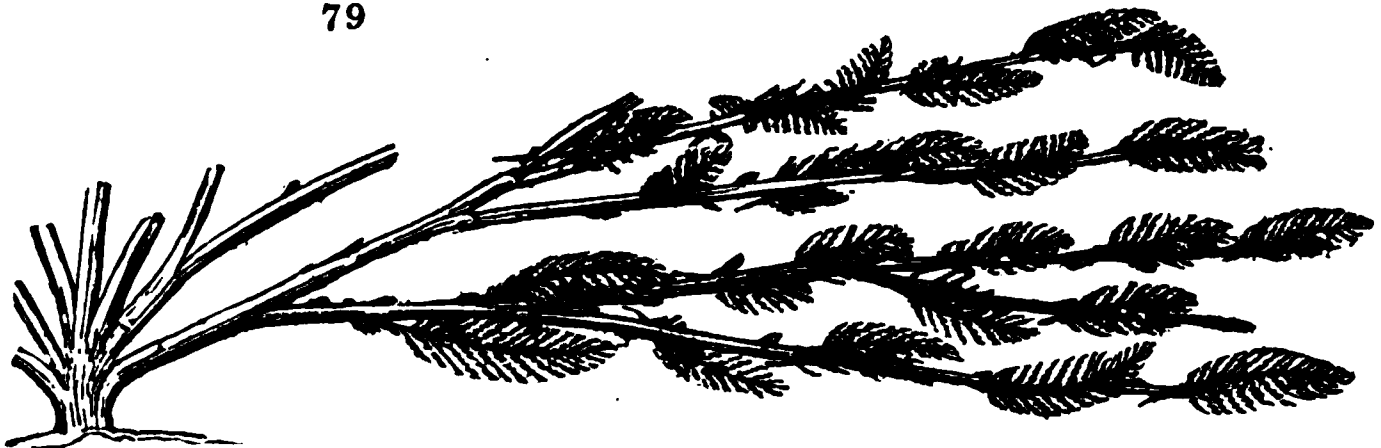
Thomson's Nursery, Mile End. — We are glad to find that this venerable establishment, which some time ago it was thought would be given up, has been revived by Mr. Thomson, jun. (See advertising sheet.) We sincerely wish success to the undertaking.

Improved Dairy System. — Mr. Harley is now in London, receiving subscribers for the history of his celebrated dairy establishment at Willow Bank, Glasgow, which will be generally useful, as it gives suitable directions for the proper accommodation and management for one cow as well as many. The work will also point out the proper mode of ventilating stables, the want of which is very injurious to the horse. The author intends to visit Holland, with a view to get additions to his extensive information upon dairy husbandry, in order that the treatise may be a standard work upon that subject. (*June 17.*)

Destroying Insects. — Dr. Forster, of Boreham, near Chelmsford, "has made some important observations on the utility of preserving, instead of destroying, small birds in flower-gardens, as the only means of keeping down certain sorts of injurious insects," the particulars of which we are promised for a future Number. We shall be glad to know if sparrows are included in the small birds alluded to; and, if so, how crocuses are to be preserved from them.

Protecting Peach Trees with Fronds of Fern. — Mr. Lee, of Ottery St. Mary, Devonshire, has been in the habit of protecting his wall-fruit trees, during the period of flowering and setting of the fruit, with common fern. He merely inserts the fronds of the fern ~~behind~~ behind the branches, arranging

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them in proportion to the length of the spurs, &c. You will readily be able to understand it by the sketch. (*fig. 79.*) The fern curls up in drying, and

effectually protects the flowers and young fruit from frost and other atmospheric injury, without excluding the rays of the sun. Now this, for aught I know, may be an old plan (see Vol. III. p. 492.), but it appears to me as a rational one, and the frond of any of the common ferns is peculiarly well adapted to the purpose. — *G. S. March 31. 1828.*

Cotylèdon umbilicus, as Spinach. — It struck me one day, lately, when walking along the lanes here, the banks of which are covered with *Cotylèdon umbilicus*, that the leaves, in spring, might prove a good vegetable for the table. I accordingly had some boiled, and assure you that it is excellent. In London, I am sure, it would be considered as a luxury so early in the season as February and March. It requires about 20 minutes to boil. This vegetable has this great recommendation, the total absence of all stringiness. I can, in short, recommend it in the strongest manner; and, in the south-west of England, it can be procured wild in any quantity. In consequence of its great succulency, a good quantity of the leaves are required to make a dish; but here a child may gather a sufficient quantity in a few minutes. — *Id.*

To destroy Crows. — Those who wish to get rid of crows, and who have spirit to enforce their wishes, may do it with less trouble during the hatching month than in any other period of the year. After the female begins to sit, if they are frightened away only a day and night or two from the rookeries, the eggs, to which they will again betake themselves, will not produce; and thus the young brood will be checked, and the dam weakened by sitting on her rotten eggs an indefinite time. (*Carse of Gowrie Report.*)

Wild Mint. — A farmer in the Hebrides some time ago discovered that a few stalks of wild mint, scattered up and down among his stacks, completely preserved them from the ravages of mice. He also tried the experiment with his cheeses and other articles kept in store, and found it equally successful. (*Yorkshire Gazette, May 17.*)

Saltpetre is said, in some of the country newspapers, to be an excellent stimulating manure, when sown at the rate of 1 cwt. per acre, as a top dressing.

The Gout in Wheat. — The stalk is swollen to three times its natural size; and on opening it, a small maggot, about one eighth of an inch long, and the diameter of a stocking-needle, appears, either alive or dead. This disease is confined to the most luxuriant crops. (*Oxford Herald, April 19.*)

SCOTLAND.

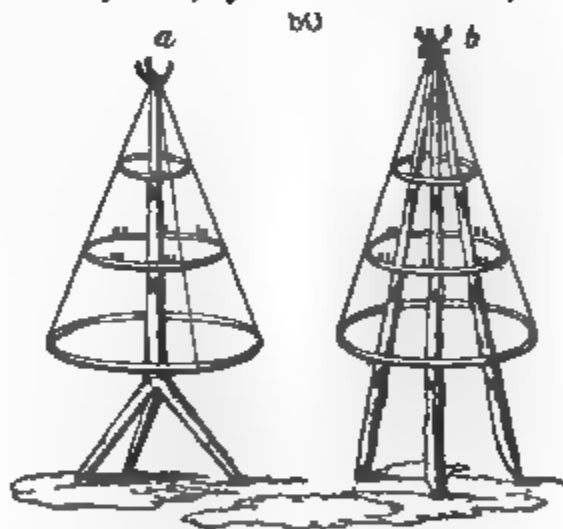
The Plantain Tree. — In the year 1789, a very fine plant of the *Musa paradisiaca* fruited in great perfection in the pine stove of Tynningham, the seat of the Earl of Haddington, in East Lothian. The plant had been kept in a box till it became so cumbrous, that the gardener (the late Mr. Thomas Thomson) resolved to plant it into the natural soil which formed the bottom of the bark pit. It was placed, accordingly, in one of the back corners, and a two-sided wooden trunk defended the stem from the bark of the bed. Here the plant prospered exceedingly; the roots penetrating under and along the sides, between the bark and brickwork, the whole length of the pit, filling the end of the stove with its magnificent foliage. Fears were entertained that either the plant must be sacrificed or the roof raised to allow it sufficient space; but just as some of the topmost leaves began to be confined and pressed by the roof, the apex of the fructification appeared, and turning downward, hung gracefully among and below the stalks of the leaves. It flowered in the course of the summer, forming an elongated spike, the flowers standing in fascicles of eight together, those nearest the stem expanding first. The first four fascicles set their fruit, and yielded in the autumn four "hands" of well ripened fruit; the first, perhaps, that were ever seen in a dessert in that part of the

world, and no less creditable to Mr. Thomson, than highly gratifying to the noble owner. A hand is eight fruit, attached together at the base, each fruit is from 4 to 5 in. in length, about $1\frac{1}{2}$ in. in diameter, narrow at each end, and of an irregular trigonal or quadrigonal shape; the pulp is soft, melting, and in flavour like an over-ripe jargonelle pear. I have no doubt but that the mango, mangosteen, &c., may be fruited in the same manner.

In the West India Islands, the planters form walks or avenues of the plantain, it being one of their most useful vegetables; as, besides the fruit, the leaves and stem, when chopped into what they call chaff, are excellent provender for cattle. Although this plant is commonly called a tree, it is in fact only a gigantic herb, as no part of it is ever transformed into ligneous matter. The Banana, by some reckoned a distinct species, but probably only a variety, is applied to the same purposes. — *J. M. Sept. 1827.*

Mildew (Sporotrichum macrosporum).—This minute fungus found on apple trees, the hawthorn, peach trees, &c., is very common in spring and the beginning of summer. To gardeners it is well known as a kind of mildew, or blight, and is commonly taken for an insect. The leaves of peach trees, even when protected by glass, are often attacked by it, nor does the fruit itself always escape, in which case it frequently drops off. The leaves are more or less distorted by it. As its production is probably the result of a peculiar state of the atmosphere, there is little chance of any means being discovered for its prevention. (*Dr. Greville's Flora Edinensis*, p. 464.)

A Model of a Machine for drying Corn (fig. 80. a), was laid before the Highland Society at Glasgow, in September, 1826, by Mr. R. Monteath, the forester. From 6 to 12 sheaves being put on the forks of the middle ring, the whole are put in motion by a very slight degree of wind, and, "when placed in an open situation, an hour of dry weather will completely dry them, after having been drenched with rain." The expense of this machine, it is said, will not be great; but, we fear, this will be its principal objection. Three young fir trees, turning on a pin at the top (b), would form a cheaper, though, doubtless, a more clumsy support.



The Spray of the Larch is, perhaps, more durable than that of any other tree. Monteath has known the warping of paling with larch spray, keep out hares and rabbits from a nursery of young trees, for 20 years, with very little repair. (*Miscellaneous Reports on Woods and Plantations*, p. 97.)

American Forest. — I have lately been at Galloway House, near Wigton, and was particularly pleased with a walk there, conducted through a wood of old and young spruce firs, the glades varied by masses and scattered groups and single plants of *Rhododendron*, *Laurustinus*, and other American shrubs and roots, the whole conveying the *beau-ideal* of an American forest, as St. Mary's Isle did, some years ago, of an English wood. — *J. N.*

Lemon Trees in the open Air. — I have seen in your *Encyclopædia of Gardening* and *Gardener's Magazine*, notices of the lemon tree being grown in the open air in England. I was not, however, aware of its having been tried in Scotland, till the other day, when, looking through the collection of plants belonging to Mr. H. Nisbet, at Beil, which are under the management

of Mr. Street, who is well known from his interesting experiments in acclimating plants, &c., I noticed two lemon trees on the open wall; one of them with a number of full-formed flower blossoms, and the other with a coloured and nearly ripe fruit of a good size on it. On enquiring of Mr. Street, I found that the one with the fruit had been exposed for two winters on the open wall, had flowered after having been put out, and thus brought its fruit to a state of perfection; the other one that was coming into flower, had not been a twelvemonth exposed. Both had stood the last winter, having the roots protected by *Hypnum* moss, and a mat thrown over them in severe frosts; but, during ordinary weather, they were quite exposed to the atmosphere. The situation being on a terrace, which is well exposed to the sun, and sheltered from the east wind, is, no doubt, favourable; but still their having endured the cold, and perfected fruit, so far north as this part of the island, affords encouragement to the more extended and general cultivation of this interesting but comparatively neglected genus *Citrus*.—*J.F. Haddington, April 30.*

Apple Trees. — I have uniformly observed that those kinds of apples whose blossoms spread out wide, and have the florets separate from one another, suffer far less from the frost than those trees which have close and compact clusters or flowers. The Juneating is an example of the one, and has this year suffered nothing; the Ribston Pippin may be mentioned as an instance of the other, and has this season suffered very materially. (*Ibid.*)

Fruit and Vegetable Market, June 21. — Strawberries are getting very plentiful, are now selling at from 1*s.* 6*d.* to 2*s.* the imperial quart; cherries are 2*s.*, grapes 3*s.* 6*d.* and pine-apples 7*s.* a lb.; best peaches sell, according to size, from 5*s.* to 6*s.* a dozen; oranges are very plenty, and sell at from 1*s.* to 2*s.* a dozen; unripe gooseberries 3*d.* and 4*d.*, and currants 18*d.* a quart. Forbidden fruit (*Citrus medica* L., *Cedrate Ital.*), from Demerara, resembling a lemon in colour, an orange in shape, and very thick in the skin, remarkably juicy, and well tasted, 1*s.* 6*d.* each; new potatoes 2*s.* 6*d.* and 3*s.* a peck; green peas at 1*s.* 6*d.* and 2*s.*; broccoli, best heads, 3*d.* and 4*d.*; artichokes, 1½*d.* and 2*d.*; turnips and carrots, from 2*d.* to 4*d.* a dozen; forced mushrooms, 3*s.* the imperial quart. The common kitchen articles, ciboules and salads, of the usual sorts, are plenty and unusually cheap. (*Scotsman.*)

The Dundee Horticultural Society. — The Spring Meeting of this Society was held in the Caledonian Hall, Castle Street, on May 2d, when the premiums were awarded as follows, viz.: — For the best auriculas, to Mr. J. Smith, gardener, Ellangowan, and Mr. Thomas Galloway, gardener, Rose-angle; for the third best, to Mr. Thomas Spalding, gardener, Arthurstone. For the best self auriculas, to Mr. Thomas Galloway; for the second best, to Mr. J. Smith; for the third best, to Mr. T. Spalding. For the best seedling auriculas, to Mr. T. Galloway; for the second best, to Mr. T. Spalding. For the best stage polyanthuses, to Mr. J. Smith; for the second best, to Mr. T. Spalding. For the best seedling, to Mr. T. Spalding; for the second best, to Mr. J. Smith. For the best hyacinths, to Mr. T. Galloway; for the second best, to Mr. J. Smith. For the best bouquet of flowers, to Mr. J. Kidd, gardener, Rossie Priory. For the best cucumber, to Mr. J. M'Dougal, gardener, Castle Huntly; for the second best, to Mr. J. Kidd. For the best broccoli, to Mr. Radley, Lunatic Asylum; for the second best, to Mr. T. Watt, gardener, Islabank. For the best sea-kale, to Mr. J. Smith. For the best coss lettuce, to Mr. J. Kettle, gardener, Glendoig. For the best cabbage lettuce, to Mr. Radley. For the best leeks, to Mr. J. Kettle; for the second best, to Mr. J. Kidd. For the best old onions, to Mr. W. Brow, gardener, Meikle House. For the best early cabbages, to Mr. T. Spalding; for the second best, to Mr. J. M'Dougal. For the best asparagus, to Mr. W. Brow; for the second best, to Mr. J. Smith, gardener, Cunnóquhie. For

the best preserved apples, to Mr. J. M'Dougal; for the second best to Mr. T. Watt. For the best variety of apples, to Mr. J. M'Dougal; for the second best, to Mr. J. Kettle. For the best variety of vegetables, to Mr. J. Kettle.

Some beautiful pelargoniums were produced from Ellangowan, a fine variety of anemones and double-striped stocks from Roseangle, and some Colmar pears from Castle Huntly. Potatoes of a good size were produced, from Mr. Halliday's, Broughty Ferry, some strong new spinach from Arthurstone, and three very large well kept carrots from Glendoig. A very fine seedling polyanthus was exhibited from Cunnoquhie; but, its fellow having been pronounced unclean, lost the prize. Some excellent stage polyanthuses, from the same place, lost the prize from their having been exposed to the weather in the open border, and their flowers consequently injured for competition. (*Dundee Courier*, May 9.)

The Montrose Horticultural Society.—The first Prize Show of this Society for the season, took place on May 7. The exhibition of flowers, vegetables, &c., was much superior to the corresponding show last year: which is certainly to be regarded as a proof of some improvements already introduced into our gardens, by means of this infant but prosperous association. The prizes were awarded as follows:—

For the best two green-edged auriculas, to Alexander Smith, gardener, Rosemount; for the second best, to Mr. William Beattie, Montrose. For the best two white-edged, to Mr. Charles Sharp, Montrose; for the second best, to Mr. Trail, Montrose. For the best two grey-edged, to Mr. William Beattie; for the second best, to Daniel Nichol, gardener, Charleton. For the best four selfs, to James Tough, gardener, Old Montrose; for the second best, to John Begbie, gardener, Rossie. For the best four polyanthuses, to Daniel Nichol; for the second best, to James Tough; for the best seedling, to James Tough. For the best four double hyacinths, all different, to Daniel Nichol; for the second best, to Mr. William Beattie. For the best three double wallflowers, to James Tough; for the second best, to Mr. Charles Sharp. For the best four pelargoniums, dark ground, all different, to Mr. Charles Sharp; for the best four, light ground, to Mr. Charles Sharp; for the second best, to James Tough. For the best bouquet of flowers, to James Tough; for the best from the open border, to Alexander Smith. For the best brace of broccoli, to Daniel Nichol; for the second best, to James Tough. For the best two heads of sea-kale, to James Tough; for the second best, to Daniel Nichol. For the best four coss lettuces, to James Tough. For the best four cabbages, to Daniel Nichol. For the best four leeks, to Mr. Matthewson, Links of Montrose; for the second best, to James Tough. For the best twelve early potatoes, very superior, to Daniel Nichol. For the best brace of early cabbages, to James Tough: for the second best, to Mr. Matthewson. For the best twenty asparagus, to James Tough; for the second best, to Daniel Nichol. For the best four carrots, autumn sown, to Mr. Matthewson; for the second best, to James Tough. For the best four onions, autumn sown, to James Tough; for the second best, to John Begbie. For the best six old onions, to Thomas Smart, gardener, Usan. For the best six kept apples three varieties, to James Tough; for the second best, to Mr. Charles Sharp.

Besides the articles entered for competition, the table was decorated by several most beautiful flowers; and, in particular, we noticed a hyacinth, superior to any that gained the prizes, from the open border in the garden of Newton Mill. A beautiful *Corræa speciosa*, from Mr. C. Sharp's collection, was greatly admired; as were also Mr. Begbie's excellent moss roses. The auriculas, sent by Mr. Morson, Bridge Street, were not inferior to any entered for competition, and excited much attention. On observing fifteen varieties of apples, from Old Montrose, all excellently kept, a thought

struck us, that the Society would confer a benefit on its members, by requiring successful candidates to explain the method of keeping fruit. The visitors were more numerous than on any former occasion; and the success of the Society will be obvious, when we state that the increase to the subscription list was also greater than at any previous exhibition. (*Montrose Review*, May 9.)

A Polyanthus Stalk was shown to us lately, containing no fewer than 137 distinct flowers, all fully and beautifully formed, though some of them were more expanded than others. The number of the flowers has taken nothing from their brilliancy, and we question whether Flora ever nursed into luxuriance a greater curiosity of the kind, in this or any other part of Scotland. (*Dumfries Courier*, May.)

ART. III. *Horticultural Society and Garden.*

JUNE 3. — Read. Upon the management of Borders for Fruit Trees, by Mr. James Housman. An account of an easy method of destroying Caterpillars, by Mr. Richard Williams, gardener to Thomas Andrew Knight, Esq. F.R.S. &c. President. [We are very happy to learn that Mr. Knight has thought it worth while to keep a gardener who can not only read, but write. Mr. Knight, by showing the utility of general knowledge to gardeners, and advocating the cause of garden libraries as the means for acquiring this knowledge, might do more for the advancement of horticulture, than by all the practical papers that he has ever written, or ever will write. Among practical gardeners these papers go for nothing, and deservedly so; for what is the result of all that Mr. Knight has stated in regard to the culture of the pine-apple, the strawberry, or the mango? Are we one step advanced in consequence of these papers? It is in physiological experiments that Mr. Knight excels, and it gives us pleasure to state that by these he has established his reputation far beyond the reach of our praise or blame.]

Exhibited. Flowers of a seedling *Rhododéndron*, from Mr. Joseph Kirke, F.H.S. Flowers of three sorts of Peonies, Double Anemones, Ranunculuses, and Hybrid Tree Lupines, from Mr. James Young, F.H.S. Seedling Lupines, from Mr. Charles Marshall, gardener to Thomas Langley, Esq., Kingston, Surrey. Flowers of *Combrétum comòsum*, from the Comte de Vandes. Plants in flower of *Erica ventricòsa*, *Erica ventricòsa càrnea*, *Erica ventricòsa càrnea supérba*, and *Euchilus obcordàta*; also, flowers of *Pæònia albiflòra Whitlèji*, and *Láthyrus grandiflòrus*, from Messrs. Chandler and Buckingham. Oranges from St. Michael's, from William Harding Read, Esq. C.M.H.S. Sir Gore Ouseley's Persian Melon, from Sir Thomas Frankland, Bart. F.H.S. Black Antigua Pine-apple from Charles Gomond Cooke, Esq. F.H.S.

Also, from the Garden of the Society. Asparagus grown within wooden tubes (*Encyc. of Gard.*, § 3887.), Grove-End Scarlet Strawberries, Early May Cherries, Syrian Cucumbers, Scarlet-fleshed Cantaloup Melon, Flat Peach of China. Flowers of Single and Double Anemones, Double Pæonies, Ranunculuses, Bulbous Irises, *Gèum coccíneum*, *Lupinus polyphyllus*, *Collinsia grandiflòra*, *Pentstèmon ovàtum*, *Láthyrus califórnicus*, *Gloxínia cauléscens*, *Mímulus lùteus rivulàris*, Drummond's Thornless Rose, Belle Aurore Rose, Rose Boursault, Watt's Climbing China Rose, *Ròsa rubélla*, *camelliæflòra*, *Ròsa índica sinénsis*, *Ròsa l'Heritieràna*, and varieties of Double Scotch Roses.

June 17. — Read. An account of the Naturalisation of some Plants at Bristol, by William Pyle Taunton, Esq. F.H.S.

Exhibited. Candles made in China, from the wax of *Rhús succedaneum*, from Thomas Beale, Esq., of Macao. A collection of Pinks, from Mr. William Hogg of Paddington. Flowers of *Combrètum comòsum*, from the Comte de Vandes, F.H.S. Flowers of Stocks, from John Weyland, Esq. F.H.S. A Flower of the Dwarf Cockscomb, from John Taylor, Esq. F.H.S. Flowers of three sorts of Peonies, from Mr. James Young. Flowers of *Combrètum purpureum*, from Richard Mills, Esq. F.H.S.

Also, from the Garden of the Society. Sixteen sorts of Strawberries. Flowers of *Pentstemon ovatum*, *P. diffusum*, *Lupinus lépidus*, *L. bicolor*, *Clárkia pulchélla*, *Ænothèra Lindlèyi*, *Collinsia grandiflora*, *Escholtzia californica*, *Centaurea Cyanus*, *Gilia capitata*, *Mimulus moschatus*, *Brodiaea congesta*, *Lonicera flexuosa*, *Pæonia albiflora Humei*, *Pæonia albiflora fragrans*, Single Anemones, Bulbous Irises, Sweetwilliams, various Show Roses, Rose Boursault, *Rosa moschata nivea*, Watt's Climbing China Rose, Frazer's Double China Rose, Italian Evergreen Rose, and Belle Aurore Rose.

July 1. — Read. On the culture of the Potato, by Thomas Andrew Knight, Esq. F.R.S. &c. President. Remarks upon the cultivation of the Queen Pine-apple, in a letter to John Fassett Burnett, Esq. F.H.S., by Mr. James Brient, gardener to Mr. Burnett.

Exhibited. A plant in flower of *Maurandia Barclaiana*, and flowers of *Oxalis Déppii*, *Clerodendron floribundum*, *Salpiglossis atropurpurea*, *Tradescantia ciliata*, *Delphinium speciosum*, *Philadelphus grandiflorus*, *Rhexia* sp. N. America, *Lysimachia verticillata*, *L. verticillata* var., *Hibiscus iliciflorus*, and *Argemone grandiflora*, from Robert Barclay, Esq. F.H.S. A flower of *Magnolia macrophylla*, from Edward Gray, Esq. F.H.S. Queen Pine-apple, from John Fassett Burnett, Esq. F.H.S.

Also, from the Garden of the Society. — Noblesse Peaches, Elton Cherries, Violet, Hâtive, and Elruge Nectarines, White Providence Pine-apple, Bernet, Bromley Hill, and Spring-Grove Raspberries, twenty-eight sorts of Strawberries, large Prussian Lettuces. Flowers of *Clárkia pulchélla*, *Málope malacoides*, *Ænothèra Lindlèyi*, *Æ. quadrivulnera*, *Æ. pallida*, *Collomia grandiflora*, *Escholtzia californica*, *Pentstemon diffusum*, *Mimulus moschatus*, *Galardia aristata*, *Gilia capitata*, *Lupinus lépidus*, *Iberis umbellata* var., *Eccremocarpus scaber*, *Lonicera flexuosa*, Single Anemones, Sweetwilliams, and Roses.

July 15. — Read. An account of a new kind of Bee-hive, by Mrs. Griffith of Charlieshope, New Brunswick, New Jersey.

Exhibited. Twenty-four varieties of Carnations and Picotees, from Mr. William Hogg of Paddington. Four Oaks seedling Grape, from Mr. Thomas Clues, gardener to E. C. Hartopp, Esq. Bread from the root of the Cassava plant, from Daniel Edward Stephens, Esq. F.H.S.

Also, from the Garden of the Society. — White Providence, Trooper's Helmet, Enville and Mealy-leaved Sugar Loaf Pine-apples, Montagu Cantaloup Melon, four sorts of Currants, five sorts of Raspberries, forty-six sorts of Gooseberries, and large White Silesian Lettuce. Also, flowers of *Málope malacoides*, *Clárkia pulchélla*, *Escholtzia californica*, *Nolana paradoxa*, *Collomia grandiflora*, *Gilia capitata*, *Lupinus áridus*, *lépidus*, *leucophyllus*, and *plumosus*, *Coreopsis tinctoria*, *Eutaxia multiflora*, *Brodiaea grandiflora*, *nothèra pallida*, *Æ. Lindlèyi*, *Æ. quadrivulnera*, *Petunia nyctaginiflora*, *Mimulus guttatus* and *moschatus*, *Heliánthus lenticularis*, *Abronia mellifera*, Single Anemones, twenty-four sorts of Double Dahlias, Rose Bouganville, *Quisqualis Indica*, *Calceolaria paniculata*, *Glycine sinensis* [our *Wistaria* (not *Wistèria*, but after Mr. Wistar, as we are informed by Alexander Gordon, who has just returned from America) *Consequana*] and *Ænothèra*, new species from north-west America.

ART. IV. Covent Garden Market.

PRICES FOR THE FIRST AND SECOND WEEKS OF JULY.

			From			To						From			To		
			£	s.	d.	£	s.	d.				£	s.	d.	£	s.	d.
<i>The Cabbage Tribe.</i>									<i>Pot and Sweet Herbs.</i>								
Cabbage, White, per dozen			0	1	0	0	2	0	Parsley, per half sieve -			0	0	9	0	2	0
Cauliflowers, per dozen -			0	2	0	0	2	6	Sage, per dozen bunches			0	6	0	0	0	0
<i>Legumes.</i>									Mint, per dozen bunches			0	4	0	0	0	0
Peas, per half sieve -			0	1	0	0	1	1	<i>Stalks for Tarts.</i>								
Beans, per half sieve -			0	0	4½	0	0	6	Rhubarb Stalks, per bundle			0	1	6	0	2	0
Kidneybeans, per half sieve			0	1	0	0	1	1	<i>Fruits.</i>								
<i>Tubers and Roots.</i>									Apples, French, per bushel			0	12	0	0	16	0
Potatoes, per cwt. -			0	5	0	0	0	0	Plums, Dessert, per punnet			0	3	0	0	0	0
Potatoes, Kidney, per bush.			0	3	0	0	0	0	Cherries, per pound -			0	0	2½	0	0	4
Turnips, White, per bunch			0	0	3	0	0	4	Cherries, Morella, p. ½ sieve			0	4	6	0	0	0
Carrots, Young, per bunch			0	0	7	0	0	8	Gooseberries, per half sieve			0	3	0	0	4	0
Horseradish, per bundle -			0	3	0	0	3	6	Currants, Black, per ½ sieve			0	3	0	0	0	0
<i>The Spinach Tribe.</i>									Currants, White, per ½ sieve			0	3	0	0	0	0
Spinach, per half sieve -			0	0	4½	0	0	6	Currants, Dessert, p. ½ sieve			0	3	0	0	0	0
<i>The Onion Tribe.</i>									Raspberries, Red, per gallon								
Onions, Green, large, p. bun.			0	0	4	0	0	0	(2 pottles)			0	1	6	0	0	0
Onions (Ciboules), per bun.			0	0	3	0	0	0	Raspberries, White, p. gall.			0	2	0	0	0	0
<i>Asparaginous Plants,</i>									Strawberries, per gallon (2								
<i>Salads, &c.</i>									pottles) about 3 pints -			0	0	8	0	1	0
Artichokes, per dozen -			0	4	0	0	0	0	Walnuts, Picklers, p. ½ sieve			0	3	6	0	4	0
Lettuce, Coss, per score -			0	1	6	0	0	0	Pine-apples, per pound -			0	6	0	0	0	0
Celery, per bundle (12 to 15)			0	1	6	0	0	0	Hot-house Grapes, per lb.			0	2	6	0	6	0
Small Salads, per punnet -			0	0	4	0	0	6	Melons, per pound -			0	1	0	0	0	0
									Cucumbers, Frame, per doz.			0	1	2	0	0	0
									Oranges, per hundred -			0	12	0	0	0	0
									Lemons, per dozen -			0	8	0	0	0	0

Observations. — The market has been abundantly supplied with all kinds of summer vegetables, fruit, &c., owing to the favourable weather. Cauliflowers have been remarkably fine. Two or three sorts of French apples have lately been brought to market, and meet a ready sale. All the small fruits are excellent and plentiful. — *M. July 16.*

ART. V. Provincial Horticultural Societies.

YORKSHIRE Horticultural Society. — The Spring Meeting of this Society was held in this city on May 21st. A numerous and elegant assemblage of ladies were present on this occasion, and seemed to be highly pleased with the proceedings. There is something at all times peculiarly delightful in the contemplation of the beauties of the floral kingdom; their fragrance, their variegated hues, their elegant and simple grandeur, strike at once with a charm of softened feeling, which the inspection of the most splendid or the most magnificent of the other works, either of art or nature, would fail to produce. This feeling is more than usually predominant, when, emerging from the bleakness, the barrenness, and the dreariness of winter, we behold the young creation bursting into life, gladdening the eye with its freshness, and cheering the heart with its smiles. This feeling, we will venture to assert, pervaded in no small degree, the numerous company who graced our Assembly Room on the occasion to which we now allude. We have seen this magnificent structure, when trod as by magic step, by hundreds of light-hearted and sylph-like forms, whilst the glad measure has breathed as from the strains of Orpheus; we have seen it, when an assemblage, as cultivated and as elegant, have sat entranced to the harmony of the orchestra, or the trill of a Catalani; but, on Wednesday, when Spring held its carnival, and Flora and Pomona jointly provided the treat, it appeared more interesting than the tide of song or the measured step could

render it. There, exotics, rescued from Alpine snows and rifled from Araby's gloves, bloomed and breathed perfume; there the indigenous plants of England's sea-girt isle flourished in their full perfection; and fruits that would tempt in the richest dessert, and vegetables that pictured the health they would promote, relieved and decorated the judiciously arranged tables. On one hand every variety of the many-shaded geranium expanded its leaves and displayed its flowers; in contrast, appeared the rich balsam, and an almost innumerable collection of the fancy-streaked tulip. These were well intermingled with the useful roots and esculents of culinary use, and the artfully formed exotic and hardy plants and bouquets. But we must not linger longer in our promenade around the room; we are now required to furnish a report of the business of the Meeting.

About half-past two o'clock, the Rev. T. C. R. Read was called to the chair, and opened the proceedings by a neat and appropriate address. The Rev. Gent. observed, that he had been very unexpectedly and unworthily placed in the chair, but he trusted, that whatever faults or defects there might be in him, they would not prove detrimental to the Society. He needed not state to the Meeting the value and the advantages of horticultural pursuits, embracing, as they did, so much that was useful and beneficial to man, as numbers then present were much better informed in these matters than himself. The Rev. Chairman then proceeded to point out the great utility and pleasure derived from the study of horticulture, whether followed for pleasure or as the avocation of life. To understand horticulture properly, a considerable degree of knowledge of the physiology of plants was requisite, as also the chemical effects of different soils and various manures. There was a difference in the manner of studying these subjects between common gardeners, and gentlemen who indulged in them for their own amusement; the former made their improvements from practice and experiment, the latter from reading and theory. It was the object of institutions like this to forward the science, and make it worthy of the attention of all, whether gardeners, gentlemen, artificers, or mechanics. He himself had witnessed with what pleasure many of the latter had retired from the regular business of the day, to the cultivation of their little gardens, and to the opulent it afforded a great amusement and luxury. He would just call the attention of the Meeting to one subject, upon which much misunderstanding had arisen. With regard to climate, many were apt to think that certain plants could not be cultivated in cold, and others in warm climates, and were extremely uninformed in that particular. Sir Joseph Banks, however, by several experiments, where he had gradually changed the temperature in which exotic plants had been growing from hot to cold, and the contrary, had established the fact, that the plants of warm climates might be made to thrive amongst us, and those of colder regions in more congenial climes. The Rev. Chairman instanced the Alpine plants, which had been supposed to be of a very hardy nature; but such was not the case. On the Alpine mountains they were deeply buried in the snow during winter, and thus effectually secured from the effects of frost; and, as the summer approached, which was much more rapid in its advance than with us, when they were suddenly exposed, it was not to the cold air, but to the beams of a very hot sun. The Chairman now observed, that it did not occur to him that he had any further observations to make; and as there was a great deal of business before him, which he had no doubt would occupy the Meeting better than any thing he could say, he should desist. He would just call the attention of the Meeting to a letter which the Yorkshire Horticultural Society had received from the London Society, placing one of its large silver medals annually at its disposal.

E. S. George, Esq., one of the secretaries, then read the letter, which stated that the medal for 1827 should soon be sent down; and that if

branches of trees for grafting, or plants, would be acceptable, they should also be forwarded from the Society's gardens, London.

Mr. James Brown, gardener to J. Hebblethwaite, Esq., of Woodhouse Lane, Leeds, was then called forward, when the Chairman informed him that the Committee, in consideration of the many contributions rendered by him for a series of years, and the many prizes won by him, had determined to award to him the valuable silver medal for 1827, which he had so deservedly merited.

The other prizes were then awarded as follow : —

Tulips. Feathered Bizards: 1. John Raby, gardener to Messrs. Backhouse, of this city; 2. Mr. William Hardman, of this city; 3. John Turner, gardener to John Burton, Esq., of Roundhay; 4. Mr. Thomas Wilson, Laverthorpe. *Flamed Bizards*: 1. Mr. William Summers, of Grimstone, near this city; 2. Mr. William Hardman; 3. Mr. Thomas Wilson; 4. Mr. Anthony Parker, without Walmgate Bar, York. *Feathered Bybloemens*: 1. John Raby; 2. Mr. William Summers; 3. Mr. Thomas Wilson; 4. Mr. William Hardman. *Flamed Bybloemens*: 1. Mr. John Rippon, Blake Street, in this city; 2. Mr. A. Parker; 3. Mr. William Hardman; 4. Mr. W. Hardman. *Feathered Roses*: 1. and 2. Mr. William Hardman; 3. and 4. John Raby. *Flamed Roses*: 1. Mr. William Summers; 2. and 3. Mr. A. Parker; 4. Mr. T. Wilson. *Unbroken Selfs*: 1. and 2. Mr. Joseph Marshall, of Rothwell Haigh; 3. and 4. John Raby.

Fruit and Plants. For the best black grapes, to D. Empson, gardener to Robert Swann, Esq., of Askam, near this city. For the best white grapes, to Thomas Deuxberry, gardener to Armitage Rhodes, Esq., of Horsforth Hall, near Leeds. For the best exotic bouquet, to Henry Baines, head-gardener to Messrs. Backhouse, of this city. For the best figs, to Thomas Walker, gardener to the Rev. Dr. R. Currer, of Clifton. For the best strawberries, to John Reynolds, gardener to P. B. Thomson, Esq., of Escrick Hall. For the best hardy bouquet, to Henry Baines, of this city.

Plants. Stove: For the three best, to John Smith, Esq., of Hungate, in this city. They were beautiful specimens of the *Ficus elástica*, 12 ft. in height; *Alpinia nutans*, above 9 ft.; *Erythrina crista-galli*, containing upwards of 200 blossoms. The Chairman observed that the Society was greatly indebted to this gentleman for several other fine plants then in the room; which, we understand, consisted of the following:—*Xylóphylla latifolia*, *Begonia argyrostigma*, *Arum odorum*, *Maranta bicolor*, *Vinca rosea*, *Vinca alba*, *Musa coccinea*, *Gardenia florida* var., *Phoenix dactylifera*, *Jasminum revolutum*, *Jasminum Sambac*, *Canna indica*, *Diosma alba*, and *Albica viridiflora*. *Green-house*: For the three best, to Henry Baines, to whom the thanks of the Council were given for a fine hardy plant

For the best *Balsam*, to Thomas Walker, gardener to the Rev. D. R. Currer.

Culinary Vegetables. Prior to the distribution of the prizes for vegetables, Mr. George informed the Meeting that the Council would in future award premiums for pines, grapes, and oranges grown without the aid of fire, and for seedlings and plants brought to early maturity.

For the best red rhubarb, to Thomas Mason, gardener to R. J. Thompson, Esq., of Kirby Hall, near Boroughbridge: for the second best, to Joseph Holmes, gardener to Messrs. Backhouse, of this city. For the best green rhubarb, to Mr. A. Parker, York; the bundle produced consisted of 12 stalks, which weighed 8½ lbs. For the best potatoes, fine large early kidneys, grown in the open air, at the front of a stove, to Thomas Deuxberry, gardener at Horsforth Hall: for the second best, to Thomas Mason, gardener at Kirby Hall; these had been grown in the open air, and not in the least forced. For the best coss lettuce, to Alfred Whitlock, Colonel Arden's gardener, of Pepper Hall, near Northallerton. For the best cab-

bage, to William Amyss, gardener to the Rev. T. C. R. Read, of Sand Hutton, near this city. For the best broccoli, to Mr. John Lumley, of Hay Park, near Knaresborough. For the best cucumbers, to Mr. James Brown, to whom the silver medal had been awarded; for the second best, to Thomas Walker. For the best mushrooms, to Thomas Smithers, gardener to Sir William M. Milner, Bart., of Nun Appleton. For the best asparagus, to Mr. Anderson, of Micklegate, in this city; the weight of 100 was 9½ lbs. For the best preserved apples, to Joseph Benson, gardener to Colonel Croft, of Stillington; for the second best, to Christopher Botham, gardener to Edward Worsly, of Hovingham, Esq.; for the third best, to Joseph Benson. For the best cabbage lettuce, to Mr. John Lumley. For the best cauliflower, to D. Empson, gardener to R. Swann, Esq. For the best white ground geranium, to Thomas Houldsworth, gardener to Messrs. Rigg, of York; for the second best, to Mr. Thomas Wilson, Layerthorpe: for the best crimson, to Godfrey Bean, of this city; for the second best, to Thomas Houldsworth: for the best and second best pink ground geraniums, to Mr. A. Parker, York: for the best scarlet geranium, to Henry Baines; for the second best, to Mr. A. Parker.

The thanks of the Council were given to Robert Dennison, Esq. of Elvington, for some very beautiful heaths; to the Rev. W. L. Pickard, of Bootham, for some handsome plants; and to Messrs. Backhouse, Tanner Row, for their very able assistance afforded to the Society by a display of plants, &c., to ornament the room.

The Chairman called the attention of the Meeting to a fine specimen of geraniums, most of them seedlings, which had been received from Colonel Croft.

A species of woollen netting was also shown, admirably constructed, to preserve fruit trees from the weather and insects, manufactured by James Seater, of Yeadon, near Leeds.

The Secretary then informed the assembly, that the next Meeting would be held in the Music Hall, Leeds, on the first Wednesday in July.

The Chairman returned the thanks of himself and the Society to all present for their obliging attention, and intimated that the Council would be glad to see the number of subscribers to the Society augmented.

On the motion of the Rev. D. R. Currer, seconded by T. Price, Esq., the thanks of the Meeting were given to the Rev. Chairman for his kindness in taking the chair, and the very able manner in which he had conducted the business of the day. The Meeting then broke up. (*York Herald*, May 24.)

The Ancient Society of York Florists held their Annual Show of Ranunculuses and Geraniums on June 19th, when prizes were adjudged as follows, viz. —

Ranunculuses. Dark and Dark Purples: 1. Viriat, Mr. Parker; 2. Domitrian, Mr. Wilson; 3. Kempenfeldt, Mr. E. Hardman; 4. Condurut, Mr. W. Hardman; 5. Naxara, Mr. Summer. *Light Purples and Grey:* 1. Bishop von Lima, Mr. Parker; 2. and 3. Diogenes, Mr. Wilson; 4. Bishop von Lima, Mr. Parker; 5. Quintus, Mr. Wilson. *White-striped:* 1, 2, 3, 4, and 5. La Temeraire, Mr. Parker. *Yellow and Orange Striped:* 1 and 2. Mélange des Beauties, Mr. W. Hardman; 3. Mélange des Beautés, Mr. Summer; 4 and 5. Mélange des Beautés, Mr. W. Hardman. *White-spotted Mould and Edged:* 1. Princess of Wertemburgh, Mr. Summer; 2. Hannibal, Mr. Summer; 3. Caligula, Mr. Summer; 4. Apollo, Mr. W. Hardman; 5. Ma Délice, Mr. W. Hardman. *Yellow and Orange Spotted, &c.:* 1. Grand Monarque, Mr. Summer; 2, 3, and 4. Julius, Mr. Parker; 5. Pretiosa, Mr. Parker. *Olive Selfs, Spots, &c.:* 1. Bouquet Sanspareil, Mr. Parker; 2 and 3. Alcibiades, Mr. Wilson; 4. Bouquet Sanspareil, Mr. Parker; 5. Bouquet Sanspareil, Mr. Summer. *White, Yellow, and Orange Selfs:* 1. Argus, Mr. Parker; 2. Skiddow, Mr. Wilson; 3. Orange Brabancon, Mr. E. Hardman; 4. Argus, Mr. Parker; 5. Model

of Perfection, Mr. Wilson. *Scarlet, Crimson, &c., Selfs*: 1 and 2. Heliotrope, Mr. W. Hardman; 3. Domingo, Mr. Wilson; 4. Pompea, Mr. Parker; 5. Zebulon, Mr. W. Hardman. *Buff and Rosy Flowers*: 1 and 2. Coxe's Buff, Mr. Parker; 3. Coxe's Buff, Mr. W. Hardman; 4. Coxe's Buff, Mr. Wilson; 5. Coxe's Buff, Mr. E. Hardman.

Geraniums. Coloured Grounds: 1. Variafolia, Mr. Parker; 2 and 3. Moore's Seedling, Mr. Butler. *White Grounds*: 1. Macranthon, Mr. Summer; 2. Youngii, Mr. Parker; 3. John Bull, Mr. Parker. *Seedlings*: 1. Louisa, Mr. Parker; 2. Summer's, Mr. Summer; 3. Hardman's, Mr. E. Hardman. (*York Herald*, June 21.)

Wakefield Horticultural Society.—We have to congratulate our Wakefield friends on the establishment of a branch of the Yorkshire Horticultural Society in that town. A numerous meeting of the subscribers was held in the Music Saloon on June 11th, the Rev. J. G. Morris in the chair. At this meeting, E. S. George, Esq., one of the secretaries, gave an interesting account of the rise and progress of the Society, from its commencement to the present time; and it was resolved, that one of the Society's meetings, for the exhibition of flowers, fruits, &c., and for the distribution of prizes, should be held at Wakefield on the third Wednesday in August of each year. On the general utility of such institutions, and the advantage they afford to the towns in which the meetings are held, we should have offered a few observations, had we not been able to present our readers with the following report of the worthy Chairman's address, wherein the subject is so ably and eloquently discussed, as to render any further comment from us unnecessary:—

"I thank you, gentlemen, for your extreme courtesy, and the high honour which you confer upon me, by requesting me to preside at your meeting this day. Were I to say that I am entirely taken by surprise, and that such a distinction was altogether unexpected, I should be guilty of affectation and a want of candour; for Dr. Crowther, whom I am proud to call my friend, when he advertised me of the intention of summoning this meeting, at the same time, on his own part, and on the part of some well-wishers to the contemplated society, urged a request that I would take the chair on the occasion. Gentlemen, conscious that I possessed no qualifications to fit me for the task, and feeling that it ill became me to assume it, as I am as yet nearly a stranger amongst you; aware, too, that I should be surrounded by individuals so much more eligible, inasmuch as they are eminently gifted with botanical science and practical knowledge, the result of their horticultural pursuits and facilities, of which I am quite devoid; I wished and begged to decline the proffered honour. It appears, however, that my entreaties are not listened to, and that your kindness and partiality persist in selecting for your chairman one so inadequate to the situation. Gentlemen, I take the chair with much diffidence; but I will presume to say, that, in the absence of other qualities, I bring with me a passionate love for plants and flowers, for the sweets and beauties of the garden, and no inconsiderable fondness for its more substantial productions. Gardening, as a recreation and relaxation from severer studies and more important avocations, has exquisite charms for me; and I am ready, with old Gerarde, to confess that 'the principal delight is in the mind, singularly enriched with the knowledge of these visible things; setting forth to us the invisible wisdom and admirable workmanship of Almighty God.' With such predilections, you will easily give me credit, Gentlemen, for participating with this assembly in the sincerest wishes for the complete and permanent establishment of a society amongst us, whose object shall be to promote, in the surrounding district, the introduction of different sorts of flowers, culinary vegetables, fruits, improved culture and management generally, and *a taste* for botany as a science. These are pursuits, gentlemen, combining at once health and innocence, pleasure and utility.

“ Wakefield and its vicinity appear to possess facilities for the accomplishment of such a project, inferior to no district within this great palatinate, indeed little inferior to any in the kingdom. The country is beautiful and charmingly varied, and, from the diversity of soil, suited to varied productions ; the whole thickly interspersed with seats and villas of persons of opulence, possessing their conservatories, hot-houses, and stoves, their orchards, flower, and kitchen gardens ; whilst few towns can boast (as Wakefield can) of so many gardens within its enclosure, cultivated with so much assiduity and skill, so much taste and deserved success. With such a sphere to act in, with such materials to work upon, if we but unite our efforts, we cannot fail to succeed. And what, then, gentlemen, are the determinate and immediate steps to be taken by us ? I believe we shall best consult the importance and respectability of our projected society by associating ourselves to the Yorkshire Society, already distinguished by the number and rank of its members, with the proviso of our being considered an integral portion or branch, with the right of having at least one annual meeting in Wakefield, and that in the autumn. If I am rightly informed, these privileges were offered to be guaranteed to us, if we succeeded in obtaining from fifteen to twenty subscribers in this vicinity ; and, gentlemen, I have the pleasure to state that already our number amounts to sixty ; and I conceive that it will depend solely on our own exertions, and the exercise of our influence with our respective friends, speedily to double that number. I feel less hesitation in holding forth expectations so sanguine, when I reflect that, seven years ago, I had the honour to originate a similar project in Preston, in Lancashire, and with the happiest success. In that borough, possessing far less advantages than Wakefield offers, a horticultural society was established, which, in its four annual meetings, assembles all the rank and fashion of a circuit of more than ten miles, and numbers more than 120 subscribers to its funds. Those who have not witnessed the interesting sight, can form but a faint idea of the animating scene which is presented in a spacious and handsome room, tastefully adorned with the choicest exotics from various conservatories, and the more choice, because selected with a view to competition ; decorated with the varied beauties of the parterre, vying with each other in fragrance, hue, and delicacy of texture ; whilst the tables groan under the weight of delicious fruits and rare vegetables in endless variety, the joint produce of hot-houses, stoves, orchards, and kitchen-gardens. Figure to yourselves, gentlemen, this Elysium, graced by some hundreds of our fair countrywomen, an absolute galaxy of animated beauty, and that music lends its aid, and you will agree with me that a more fascinating treat could hardly be devised.

“ Should it be thought that the projected society thus principally recommends itself as an elegant recreation only, I am free to assert that the practical results of similar institutions are of much higher importance ; indeed, were no other beneficial consequences to ensue than the taste for gardening, which, through the influence of provincial societies, is certain to be spread through the community, I should deem the object worthy of your patronage and support. But the amicable rivalry which is created by the distribution of honorary rewards, whilst it stimulates the industry, adds to the knowledge and skill of the professional man, and to the pleasure and enjoyment and harmless luxuries of the amateur. All excellence, and beauty especially, is comparative : hence the wisdom and utility of assembling under one view the varied productions of distant gardens, and specimens of the industry, art, and abilities of different horticulturists. This enables us to discriminate between the diversified modes of treatment and the varieties of produce, to select and adopt the most efficacious and desirable. New flowers, new fruits, recent varieties of those of long standing and of established character for excellence, are thus introduced, in lieu of those whose inferiority is no longer doubtful. New culinary vegetables,

or, from superior treatment and mode of culture, rendered more salubrious, and of exquisite flavour, will load the stalls of our market-gardeners. I call upon you, then, gentlemen, for your zealous support. Say not that you have no gardens, or that your gardens are inconsiderable, or that you are no cultivators; you are all interested in having good and delicious fruits, nutritious and delicate culinary vegetables, and in procuring them at a reasonable rate, which will be the results of improved and successful cultivation. Few are without their favourite geraniums, rose, or peony; their dahlias and chrysanthemums; their select strawberries, plums, or cherries; their choice pears or pippins; their superior lettuce, endive, and celery. At our various exhibitions let each contribute that in which he excels, and our object will be attained. Gentlemen, I fear I have trespassed too long on your patience and indulgence. I will just urge one more motive for your warm support of our intended society; it is this, that, by diffusing a love of plants and gardening, you will materially contribute to the comfort and happiness of the laborious classes; for the pleasure taken in such pursuits forms an unexceptionable relaxation from the toils of business, and every hour thus spent is subtracted from the alehouse and other haunts of idleness and dissipation. I have frequently admired a passage of Addison's, analogous to the subject under consideration, and with which I hasten to conclude:—

“ ‘ I look upon the pleasure which we take in a garden as one of the most innocent delights in human life. A garden was the habitation of our first parents before the fall. It is naturally apt to fill the mind with calmness and tranquillity, and so lay all its turbulent passions at rest; it gives us great insight into the contrivance and wisdom of Providence, and suggests innumerable subjects for meditation. I cannot but think the very complacency and satisfaction which a man takes in these works of nature to be a laudable, if not a virtuous, habit of mind.’ ”

We cannot conclude without expressing our satisfaction at the spirited manner in which the Society is supported. Sixty subscribers have already been added to its list, from Wakefield and the immediate vicinity; and we doubt not that, after the first August meeting, this number will be considerably augmented, both by amateurs and practical horticulturists. (*Halifax Journal*, June 13.)

The Floral and Horticultural Society of Hull held their first Meeting for the present year, for the exhibition of auriculas, polyanthuses, hyacinths, bouquets, and cucumbers, on April 28th. The auriculas far surpassed any shown on former occasions; of polyanthuses there was a fair show; the hyacinths were not numerous; and the bouquets but few, though, considering the season, very beautiful. The whole exhibited a delightful spectacle, and excited the admiration of a great number of highly respectable visitors. Some excellent specimens of cucumbers were produced, but in this department there was not much competition. Mr. Parker, Dr. C. R. Alderson, and Mr. Lumb adjudged the prizes as follows:—

Auriculas. Premium: Metropolitan, Mr. George Wharton. *Green-edged:* 1. Stretch's Alexander, Mr. Wharton; 2. Lee's Colonel Taylor, Miss Lambert; 3. Howard's Lord Nelson, Mr. Wharton; 4. Smith's Waterloo, Miss Lambert; 5. Stretch's Alexander, and 6. Howard's Lord Nelson, Messrs. G. and W. Tindall; 7. Grime's Hyder Ally, Mr. Carr; 8. Stretch's Alexander, Mr. Wadsworth, gardener to G. Egginton, Esq. *Grey-edged:* 1. Ryder's Prince of Waterloo, and 2. Medcalf's Lancashire Hero, Messrs. G. and W. Tindall; 3. Unknown, Miss Lambert; 4 and 5. Kenyon's Ring-leader, and 6. Unknown, Messrs. G. and W. Tindall; 7. Kenyon's Ring-leader, Miss Lambert; 8. Pott's Regulator, Mr. Bell. *White-edged:* 1. Wild's Bright Phœbus, Mr. Wharton; 2. Hughes's Pillar of Beauty, Mr. Bell; 3. Taylor's Incomparable, Mr. Wharton; 4. Lee's Earl Grosvenor, Mr. Edward Brown, gardener to W. Jarvis, Esq.; 5. Lee's Bright Venus,

Mr. Robert Oglesby; 6. Crompton's Admiral Gardener; and 7. Hughes's Pillar of Beauty, Miss Lambert; 8. Hughes's Pillar of Beauty, Messrs. G. and W. Tindall. (*Hull Advertiser*, May 2.)

The Botanical and Horticultural Society of Durham, Northumberland, and Newcastle upon Tyne held a General Meeting at Newcastle on May 2d. The exhibition of flowers was so great and so excellent, that the Committee thought it proper to give bronze medals for the second best auricula, hyacinth, and seedling geranium, in addition to the prizes proposed for the Meeting in the annual circular. The silver medal for the best auricula was gained by Mr. James Scott, gardener to Edward Charlton, Esq., Sandhoe, with Kenyon's Ringleader; he also gained a silver medal for the best bouquet of hardy bog plant flowers. The bronze medal, for the second best auricula, was gained by James Graham Clarke, Esq., of Fenham Hall, with Buller's Lord Hood; a very fine dish of grapes, from Fenham Hall, was also exhibited. The silver medal for the best seedling auricula was awarded to Mr. John M'Queen, gardener, Scot's House, for M'Queen's True Blue. Some fine seedling auriculas (not for competition) were exhibited by Mr. George Moat, one of which, named Wellington, is a flower of extraordinary merits. Mr. Matthew Bates, of Kenton, gained the silver medal for the best double hyacinth, with Groot Voorst. The bronze medal for the second best double hyacinth was adjudged to Mr. Christopher Robson, gardener to Dr. Headlam of Jesmond, with Triomphe Blandina. It is worthy of remark, that the hyacinths exhibited by Mr. Robson, and which were uncommonly strong and beautiful, have been flowered by him for three seasons in this country, a proof of his excellent mode of culture of this charming flower; Mr. Robson also gained the silver medal for the best twenty-five heads of asparagus. The silver and bronze medals were awarded to Mr. W. Kelly, gardener to A. Donkin, Esq., Jesmond, for the best single hyacinth, Buona-parté; and the second best single hyacinth, Charlotta Mariana. Mr. Kelly also gained the silver medal for a most magnificent dish of forced strawberries; he also exhibited several pots of strawberry plants covered with blossoms and fruit, which were very beautiful. The silver medal was awarded to Mr. Falla, Gateshead, for the best seedling geranium, Burns the Poet; and the bronze medal for the second best seedling geranium, to Mr. Lawson, of Wylam, which he named Pelargonium ovatum. A very fine plant in flower, *Calla* [now *Richardia*] *æthiopica*, from Mr. G. A. Lambert, Shield Field, was very much admired. There were also a very fine dish of mushrooms from the garden of Mr. Wilson; two heads of remarkably large broccoli sent by Mr. Telford, the gardener to George Hartley, Esq. of Middleton Lodge; and a most magnificent specimen of the *Erica elegans*, covered with nearly 50 bunches of flowers, and some fine bulbous and herbaceous flowers from the garden of Messrs. Falla and Co., Gateshead. An assemblage of beauty and fashion crowded the room for nearly two hours, and seemed highly pleased with the exhibition. The display of hyacinths and auriculas of the finest sorts was indeed a great treat to the admirers of floral exhibitions, and evinces the great perfection to which the culture of these very fine flowers has been carried, and which is mainly to be attributed to the spirit of emulation which this Society, though in its infancy, has already created among the members.

On June 13th, another General Meeting of this Society was held in Newcastle, when the following prizes were awarded: — The gold medal to Mr. Joseph Clarke, gardener to Mrs. Bewicke, of Close House, for a superb dish of grapes; and the bronze medal for the second best dish of potatoes. The silver medal to Mr. Thomas Watson, gardener to James Kirsopp, Esq., of the Spittal, for the best dish of potatoes; and the bronze medal for the second best dish of peas. The silver medal to Mr. Balfour, gardener to Earl Grey, for the best dish of peas. The silver medal to Mr. Bates, of

Kenton, [for the best white ground tulip, *Ceres Prima*; and the bronze medal to Mr. Moody, of Sunderland, for the second best tulip, *General Loftus*. The silver medal to Mr. Lawson, gardener to Matthew Bell, Esq., for the best bouquet; and the bronze medal to Mr. Cook, gardener to Miss Simpson, of Bradley Hall, for the second best bouquet. There were a most elegant plant of *Cactus speciosa*, from the green-house of Mr. Falla, in full flower; and a myrtle-leaved orange, full of beautiful fruit, and several plants of *Amaryllis*, from the garden of J. G. Clarke, Esq., of Fenham. Some of the largest and most superb scarlet Brompton stocks ever seen were exhibited by Mr. Bates, of Kenton. The bouquets exhibited for the silver medal were very numerous, and met the admiration of a very large assemblage of ladies and gentlemen. The competition was so great that the Committee were induced, in addition to the silver medals for the best, to give bronze medals for the second prizes.

On June 10th, a *Meeting of the same Society* was also held in Durham when the following prizes were awarded:—The silver medal to Mr. Thomas Pape, gardener to the Rev. the Dean of Chester, Stanhope, for the best dish of grapes. The silver medal for the best dish of potatoes, and another silver medal for the best dish of peas, to the Rev. J. Fawcett, Newton Hall. The silver medal and the bronze medal to Mr. Harrop, of Sunderland, for the first and second white ground tulips, *Bienfait Incomparable* and *Rose Triomphe Royale*. The silver medal to Mr. Avery, gardener to W. T. Salvin, Esq., of Croxdale, for the best bouquet of flowers; and the bronze medal to Mr. Harrop, of Sunderland, for a most superb collection of scarlet and white Brompton stocks. There were also two very fine ones from the garden of Mr. Humble, which were much admired. It was pleasing to see so good an exhibition at Durham this year, and it is to be hoped that the subscribers in the neighbourhood will do every thing in their power, by sending flowers and other articles, to increase the attraction (*Newcastle Courant*, June 14.)

The Botanical and Horticultural Society of Hexham held a Meeting on the 30th of April, for the exhibition of flowers and vegetables, when the prizes were adjudged as follows:—

Auriculas. 1. Metcalf's Lancashire Hero, 2. Barlow's King, 3. Grime's Privateer, 4. Riden's Junius, and 5. Kenning's Ringleader, Mr. James Scott, of Sandhoe.

Hyacinths. 1. Groot Vorst, and 2. B'ucher, Mr. James Scott, of Sandhoe.

Culinary Vegetables. For the best brace of cucumbers, and the best four heads of broccoli, to Mr. James Scott, of Sandhoe. For the best four cabbages, to Mr. Thomas Watson, of Spittle. For the best four stalks of rhubarb, to Mr. Joseph Robson, of Hexham. For the best twenty-five heads of asparagus, to Mr. William Grey, of Beaufront. (*Ibid.*, May 10.)

The Darlington Florist and Horticultural Society held their first Spring Meeting on May the 21st, when the prizes were adjudged as follows:—

Tulips. *Feathered Bizards*: 1 and 2. Mr. Robert Petty; 3. Mr. Stephenson. *Flamed Bizards*: 1 and 2. Mr. Lawson; 3. Mr. Beckwith. *Feathered Bybloemens*: 1. Superfine, Mr. Lawson; 2 and 3. Mr. Beckwith. *Flamed Bybloemens*: 1. Roi de Prusse, 2. Cerise, and 3. Reine de Congo, Mr. Lawson. *Feathered Roses*: 1. Do-little, Mr. Lawson; 2. and 3. Zione, Mr. Stephenson. *Flamed Roses*: 1. and 2. Mr. Betty; 3. Mr. Beckwith. *Doubles*: 1. Marriage de ma Fille, Mr. Beckwith; 2 and 3. Suprême, Mr. Stephenson. *Sels*: 1. Mr. Lawson; 2. Mr. Petty; 3. Mr. Beckwith. *Double Yellows*: 1. Mr. Longstaff; 2. Mr. Petty. *Best Exotics*: 1. *Calceolària rugosa*, Mr. Lawson; 2. *Erica perspicua*, and 3. *Erica vestita fulgida*, Mr. Watson.

Geraniums. *Scarlet Grounds*: 1. *Davyànum*, and 2. *Augusta coccinea*, Mr. Lawson; 3. *Davyànum*, Mr. Cummins. *White Grounds*: 1. *Macranthon*, 2. *Coronation*, and 3. *Prince of Orange*, Mr. Lawson. *Purple*

Grounds: 1. Royal George, Mr. Stephenson; 2. Lady Haggerston, and 3. Purple Sovereign, Mr. Lawson. **Selfs:** 1. Basilisk, Mr. Lawson; 2. Cape Scarlet, Mr. Cummins. **Best Seedlings:** 1. Mr. Lawson.

Double Anemones. 1. Mr. Lawson; 2. Mr. Boydes; 3. Mr. Lawson.

Culinary Vegetables. For the best hardy broccoli, to Mr. Lawson. For the best brace of cucumbers, to Mr. Beckwith, gardener to Jacob Maude, Esq., Selaby Hall; for the second best, to Mr. Stephenson, gardener to Joseph Pease, Esq., South End, Darlington; for the third best, to Mr. Lawson, gardener to James Backhouse, Esq., West Lodge, Darlington. For the best dish of asparagus, to Mr. Scott, King's Head Inn, Darlington. For the best dish of potatoes, to Mr. Wallas, gardener to Jonathan Backhouse, Esq., Polam Hill, near Darlington. For the best two heads of cauliflower, to Mr. Lawson, gardener to James Backhouse, Esq. For the best brace of cabbage, to Mr. Beckwith, gardener to Jacob Maude, Esq. For the best lettuce, to Mr. Beckwith, gardener to Jacob Maude, Esq.

The above Society intend in future to hold their Meetings in the Town Hall of Darlington, it being offered gratis by the gentlemen of that place, who have recently come forward very liberally with their subscriptions in aid of the Darlington Horticultural Society. (*Newcastle Courant*, June 14.)

The Stamfordham Florists held their Show of Tulips on May 28th, when the prizes were adjudged as follows:—

Whites: 1. Rose Triomphe Royale, Mr. W. Goodfellow; 2. Pearl Blanch, and 3. Princess Imperial, Mr. Johnson; 4. Belle Actrice, and 5. Hercules, Mr. Hedley. **Yellows:** 1. Maddox's Yellow, Mr. H. Goodfellow; 2. Bell's Financier, Mr. W. Goodfellow; 3. Suprema Superfine, Mr. Johnson; 4. Black Prince, and 5. Bell's King, Mr. Hedley. (*Ibid.*, June 14.)

Adam's Lodge of Free Gardeners, at Sunderland, held their Annual Show of Tulips at Brother Lambert's Gardener's Tavern, June 5th, when the prizes were adjudged as follows:— 1. Rose Royale, 2. Belle Actrice, and 4. Madame de Pompadour, Brother Moody; 3. Triomphe Royale, Brother Hull; 5. Triomphe de Europe, Brother Davison. Brother Rutter, gardener to Shakespeare Reed, Esq., Thornhill, exhibited a dish of very fine new potatoes from the open ground, and a most beautiful cauliflower of an immense size. (*Ibid.*, June 14.)

The Morpeth Florists' Society held their Annual Tulip Show on May the 29th, when the following prizes were awarded:—

Rose-coloured: 1. Rose Triomphe Royale, 2. Cerise Primo, and 5. Mantue Ducal, Mr. John Hindhaugh; 3. La Brillante Eclatanta, and 4. Cerise Triumphant, Mr. R. Lewins. **Violet-coloured:** 1. Grand Alexander, and 5. Roi de Pegu, Mr. Hindhaugh; 2. Constant, Mr. M'Lellan; 3. Atlas Secundus, Mr. Barrow; 4. Ursina Minor, Mr. Dixon. **Yellows:** 1. Gloria Mundi, Mr. John Dixon; 2. Goudbeures, Mr. Barrow; 3. Grandeur du Monde Mr. Barry; 4. Liquirus, and 5. General Murray, Mr. John Hindhaugh. (*Ibid.*, June 14.)

The Hendon (near Bishop Wearmouth) Independent Florists held their Annual Show of Tulips on June the 9th, when the prizes were adjudged as follows:— 1. Grand Primeure Belle, Mr. Thomas Hull; 2. Licentia, Mr. Matthew Pattent; 3. General Washington, Mr. William Moody; 4. Violet Imperial, Mr. C. North; 5. Grand de Touachatte, Mr. John Hull. (*Ibid.*, June 14.)

Liverpool Floral and Horticultural Society.—The second Spring Exhibition of this Society took place at the rooms of the York Hotel on the 26th of May. Notwithstanding the extremely unfavourable state of the weather during the whole afternoon, the company was very numerous, and the rooms were at one time crowded. An improved arrangement had been made for the inspection of the flowers and fruits; the great room was entirely devoted to the tulips and exotics, and the fruits and esculents were

placed in a room adjoining. The company, also, were only permitted to move in one direction, and thus the confusion which took place at the last exhibition was avoided. The show of tulips was large and good, but would have been better if the weather had been more favourable. The pines, melons, grapes, and other hot-house productions, as well as the produce of the kitchen-garden, were, from the more advanced state of the season, much more plentiful and of finer appearance than at the show in the beginning of the month. The exotics were arranged on tables round both of the rooms, and made a splendid display. The following is the list of prizes:—

Tulips. For the best pan of tulips, consisting of Surpasse Catafalque (Feathered Bizard), De Roi (Flamed Bizard), Black Bouquet (Feathered Bybloemen), Roi de Siam (Flamed Bybloemen), Triumph Royal (Feathered Rose), Taylor's Seedling (Flamed Rose), the premier prize, a silver cup, value five guineas, to Mr. William Leighton, Preston. For the second best pan, consisting of Duc de Savoy (Feathered Bizard), Earl St. Vincent (Flamed Bizard), Washington (Feathered Bybloemen), Alien (Flamed Bybloemen), Triumph Royal (Feathered Rose), Turner's Lord Hill (Flamed Rose), to Mr. Thomas Pyke. For the third best pan, consisting of Earl St. Vincent (Feathered Bizard), Grandeur Superb (Flamed Bizard), Bienfait (Feathered Bybloemen), Transparent Noir (Flamed Bybloemen), Sheridan's Rose (Feathered Rose), Triumph Royal (Flamed Rose), to Mr. T. Butler, Manchester. *Feathered Bizard*: 1. Duc de Savoy, Mr. Leighton; 2. Goud Buers, Mr. T. Pyke; 3. Surpasse Catafalque, Mr. Pulford; 4. Sir Sidney Smith, Mr. Whalley; 5. Duke of Manchester, Mr. Falkner, Manchester; 6. Trafalgar, Mr. Appleton; 7. Collingwood, Mr. Bruce. *Feathered Bybloemen*: 1. Neat and Clean, Mr. Appleton; 2. Bienfait, Mr. Falkner; 3. Violet Quarto, Mr. Leighton; 4. Black Bouquet, Mr. Butler; 5. Incomparable, Mr. Falkner; 6. Washington, Mr. Bruce; 7. Maître Partout, Mr. Appleton. *Feathered Roses*: 1. Walworth, Mr. Hey; 2. Do-Little, Mr. Appleton; 3. Count de Vergennes, Mr. Whalley; 4. Unknown, Mr. Butler; 5. Harvey's Rose, Mr. Whalley; 6. Hero of the Nile, Mr. Boardman, Leigh; 7. Triumph Royal, Mr. T. Pyke. *Flamed Bizards*: 1. Phoenix, Mr. Appleton; 2. Superb, Mr. Hey; 3. Lecantique, Mr. Appleton; 4. Captain White, Mr. T. Pyke; 5. Grand Cairo, Mr. Whalley; 6. Beauté Frappante, Mr. Falkner; 7. Seedling, Mrs. James. *Flamed Bybloemen*: 1. Unknown, Mr. Whalley; 2. Duc de Florence, Mr. Bruce; 3. Unknown, Mr. Appleton; 4. Transparent Noir, Mr. Bruce; 5. Triumph de Lisle, Mr. Leighton; 6. Alexander Magnus, and 7. Seedling, Mr. Boardman. *Flamed Roses*: 1. Rose Unique, and 2. Incomparable, Mr. Whalley; 3. Lord Hill, Mr. Leighton; 4. Rose Grand, Mr. Bruce; 5. Rose Quarto, Mr. Leighton; 6. Roi de Cerise, Mr. Boardman; 7. Triumph Royal, Mr. Leighton.

Double Tulips. 1. and 2. Mr. Bruce; 3. Mr. Whalley; 4. Mr. Bruce. *Self-coloured*: 1. Mr. Harrison; 2. and 3. Mr. Butler; 4. Mr. Wakefield. *Maiden Growers*: 1. and 2. Feathered Bizard, and 2. Flamed Bizard, Mr. Wheeler; 1. and 2. Feathered Bybloemen, and 1. and 2. Flamed Bybloemen, Mr. Wheeler; 1. Flamed Bizard, Mr. Whittingham; 1. and 2. Feathered Roses, and 1. and 2. Flamed Roses, Mr. Wheeler.

Plants. Stove: 1. *Oncidium Andersonia*, Mr. Richard Harrison; 2. *Maranta zebrina*, J. Blackburne, Esq.; 3. *Oncidium flavidum*, Mr. Richard Harrison; 4. *Thunbergia alata*, Bannerman and Co.; 5. *Burchellia capensis*, Mrs. Dyson; 6. *Didymocarpos Rhéxia*, Mrs. Falkner; 7. *Ixora coccinea*, Mr. Dobson; 8. *Erythrina crista galli*, Mr. Powell. *Green-house*: 1. *Calceolaria corymbosa*, 2. *Fuchsia conica*, and 3. *Calceolaria rugosa*, Mrs. Cropper; 4. *Melaleuca fulgens*, Bannerman and Co.; 5. *Fuchsia gracilis*, J. Blackburne, Esq.; 6. *Polýgala latifolia*, and 7. *Corræa speciosa*, Mr. Davis; 8. *Ruscus andrógynus*, Mrs. Cropper.

Pelargoniums. 1. Commander in Chief, 2. Spectabile purpureum, and 3. Macranthon, Mrs. Dyson; 4. Lady Rowley, Mr. Davis; 5. Waverley, and 6. Decora, Mrs. Cropper.

Ericas. 1. Unknown, J. Blackburne, Esq; 2. Vestita superba, Mr. Davis; 3. Odorata, Mr. Whalley; 4. Tricolor, 5. Hýbrida, and 6. Vestita coccinea, Mr. Davis.

Hardy Shrubs. 1. Azalea pónica carnea, 2. Azalea pónica alba, and 3. Rhododéndron cataubiense, Mr. Whalley; 4. Ulex europæus flore pleno, Bannerman and Co.; 5. Azalea pónica, Mr. Whalley; 6. Rhododéndron var., Mr. Davis.

Herbaceous Plants. 1. Cypripedium Calcèolus, Mrs. Falkner; 2. Schizanthus pinnatus, and 3. Primula cortusoides, Bannerman and Co.; 4. Cypripedium pubescens, Mr. Whalley; 5. Dodecàtheon Meadia alba, Mr. Davis; 6. Astragalus montana, Bannerman and Co. For the first and second basket of cut flowers, to Mr. Whalley; for the third, to Mrs. Falkner. For the first basket of plants, to Mr. Horsfall; for the second, to Mrs. Pyke; for the third, to William Earle, Esq. For the best orange tree, to Mrs. Rathbone. For the best Pæonia montana, to Mr. Whalley.

Fruits and Esculents. For the best pine, to Mr. Powell; for the second best, to Mr. Davis. For the best black grapes, to Mr. Tayleur; for the second best, to Mr. Smith, Fulwood Lodge. For the best white grapes, to Mr. Cunningham; for the second best, to Mr. Tayleur. For the best melon, Silver Rock, to Mr. Sandbach. For the best strawberries, to Mr. Roskell. For the best plate of apples, to Mr. Manifold; for the second best, to Mr. Sandbach. For the best brace of cauliflowers, to Mrs. Rathbone; for the second best, to Mr. Tayleur. For the best brace of cucumbers, to Mr. Powell; for the second best, to Mr. Powell. For the best dish of mushrooms, to William Earle, Esq.; for the second best, to Mr. Tayleur. For the best dish of French beans, to Mrs. Rathbone; for the second best, to Mrs. Rathbone. For the best bunch of asparagus, to Mr. Roskell; for the second best, to Mr. J. A. Yates. For the best brace of lettuces, to Mr. Isaac Cooke; for the second best, to Mrs. Dyson.

Extra Prizes. For a plate of pears, to William Earle, Esq. For a plate of nuts, to Mr. Whalley. For the best rhubarb, to Mr. Barnes. For artichokes, to Mr. J. A. Yates. For cabbages, to Mrs. Rathbone. For apples of last year, remaining on the branch, to Mr. Roskell. For a fine specimen of the palm, *Sabal Blackburniana*, with fruit and flowers, to John Blackburne, Esq. M.P. For a fig tree, to Mr. Powell. For a specimen of the *Cactus speciosissima*, to Earl Grosvenor. (*Liverpool Advertiser*, May 27.)

Herefordshire Horticultural Society. — The second Horticultural Exhibition of this Society for the present year, took place on May 16th, and attracted a very fashionable, and, considering the state of the weather, numerous attendance. We have never seen the grand stage, which is nearly *forty feet* long, better covered; the geraniums were particularly fine, and such was the influx of plants and flowers for competition, that the prize stand was not sufficiently large to contain one half of them. The tulips were excellent, being brilliant and distinct in colour, and the anemones and hot-house plants were much admired. The stand for vegetables contained strawberries, peas, asparagus, mushrooms, and potatoes. The strawberries were very fine for the season, as were also the green peas, &c. At two o'clock the doors of the splendid exhibition room were thrown open to the subscribers and their friends, to welcome whom a band, concealed at the back of the large stage by the blossoms and foliage of exotics, struck up the "Rose-bud of summer," and at intervals enlivened the scene by selections from Mozart, and appropriate airs and quadrilles. This was allowed to have a very pleasing effect, and will doubtless be continued. Prizes were awarded as follows: —

Tulips. *Bizards*: 1, 2, and 3. Unknown, T. H. Symons. *Bybloemens*: 1. Black Baguet, Mr. Godsall; 2. Roi de Siam, Mr. Cranston; 3. Cheval noir, Mr. Godsall. *Roses*: 1. Rubante, Mr. Cranston; 2. Triomphe Royal, and 3. Rosa Vesta, Mr. Godsall.

Double Anémones. *Dark*: 1. Celestina, and 2. Incomparable Azure, Sir J. G. Cotterell. *Light*: 1. Cleophas, and 2. Julia, Mr. Godsall.

Pelargoniums. *Light*: 1. P. macranthon, Mrs. Gordon; 2. Fair Rosamond, W. Godsall; 3. Cleopatra, T. H. Symonds, Esq. *Red*: 1. William the Conqueror, Mr. Godsall; 2. P. esséxia, C. G. Cooke, Esq.; 3. Generalissimo, T. H. Symons, Esq. *Dark*: 1. Wood's Geranium, T. H. Symons, Esq.; 2. Davyànum, Mrs. Gordon.

Plants. *Stove*: 1. Cactus speciosa, C. G. Cooke, Esq. *Green-house*: 1. Primula sinensis, Sir J. G. Cotterell; 2. Erica perspicua, and 3. Diosma ovata, T. H. Symons, Esq. *Hardy*: 1. Giant Stock, R. J. Powell, Esq.; 2. Stock, Sir E. F. S. Stanhope; 3. Pæonia fimbriata, Sir J. G. Cotterell.

First strawberries, C. G. Cooke, Esq.; first green peas, Mrs. Jones, Sugwas; first asparagus, Sir J. G. Cotterell; second asparagus, R. J. Powell, Esq.; first potatoes, Sir J. G. Cotterell. A remarkably fine bundle of asparagus, grown in the garden of the Rev. F. Trumper, of this city, was sent in too late to be exhibited. Some of the shoots were 3 in. in girth. (*Hereford Journal*, May 21.)

The *third Exhibition* of this Society took place on June 24th, and the display imparted very general satisfaction, as did the adjudication of the prizes, which was scientifically performed. The pinks and roses were in great perfection; the former very abundant, and, considering the difficulty of retarding the blooming of the ranunculuses to the same period with the pink, they were excellent also. A beautiful tray of roses from Mrs. Gordon's garden presented an extraordinary display of those flowers in the richest variety of colour. The grand stand was decorated with a fine assortment of geraniums, and the stand for fruits exhibited a choice variety. The prize pine-apple was a very fine specimen, as were also some prime grapes and melons, and two plates of apples were exhibited in a perfect state of preservation. There were many remarkably large and fine specimens of peaches, nectarines, strawberries, cherries, and raspberries; as also cauliflowers, carrots, beans, &c. In fact, the exhibition was equal to any preceding one here, and not inferior, perhaps, to that of any provincial society in the kingdom. List of prizes:—

Ranunculuses. *Dark*: 1. M. le Sere, Mrs. W. Pateshall. *Light*: 1. Cleopatra, 2. Pompey, and 3. Therese, Mr. Godsall. *Striped*: 1. Romania, and 2. Trajan, Mr. Godsall.

Roses. *Dark*: 1. Tuscany, T. H. Symons, Esq.; 2. Imperial, Mr. Cranston; 3. Unknown, Mrs. Gordon; 4. Unknown, Sir J. G. Cotterell. *Light*: 1. Bath Scarlet Moss, Mr. Godsall; 2. Unknown, Mrs. Phillips; 3. Bour-salt, and 4. Celestial, Mr. Cranston. *China, Dark*: 1. Purple, Sir J. G. Cotterell; 2. Crimson, Sir E. F. S. Stanhope. *China, Light*: 1. Blush Bour-salt, Sir J. G. Cotterell.

Pinks. *Black and White*: 1. Dry's Earl of Uxbridge, and 2. Barratt's Conqueror, Mrs. W. Pateshall; 3. Unknown, Mrs. Jones, Sugwas. *Purple-laced*: 1. Wilmot's Lady Rowley, Mrs. Gordon; 2. Unknown, and 3. Unknown, Sir J. G. Cotterell. *Red-laced*: 1. Barnet's Bexley Hero, Mrs. W. Pateshall; 2. Bray Invincible, Mr. Godsall; 3. Unknown, Sir J. G. Cotterell. *Fancy*: 1. The Rejected, Mr. Godsall; 2. Wellington, T. H. Symons, Esq.

Plants. *Stove*: Vinca alba, Sir J. G. Cotterell. *Green-house*: 1. Erica tricolor, T. H. Symons, Esq.; 2. Geranium eximium, C. G. Cooke, Esq.; 3. Erica Parmentiera, T. H. Symons, Esq. *Hardy*: 1. Schizanthus pinnatus C. G. Cooke, Esq.; 2. Dianthus, Sir J. G. Cotterell.

Fruit. Pine-apple : 1. New Providence, C. G. Cooke, Esq. *Melon* : 1. Sir J. G. Cotterell. *Nectarines* : 1. C. G. Cooke, Esq. *Cherries* : 1. May Duke, Archdeacon Prosser ; 2. Florence, R. J. Powell, Esq. *Strawberries* : 1. Wilmot's Superb, and 2. Keen's seedling, Mr. Godsall ; 3. Caroline, Mrs. Downes. *Raspberries* : 1. R. J. Powell, Esq. *Culinary Vegetables. Cauliflowers* : 1. Sir E. F. S. Stanhope. *Carrots* : 1. R. J. Powell, Esq. (*Hereford Journ.*, June 25.)

Ross Horticultural Society. — The 18th Exhibition of this highly-favoured institution took place on the 18th inst. It is not generally known that this was the first Society which held its meetings from and unconnected with a public inn. The advantages resulting from this mode of exhibition, and the prosperity which attended the Ross Society were soon felt, and, we believe, every new society has adopted the same plan, and many of the old societies are emancipating themselves from the public-house and "the flower feast." The subscribers to the Ross Society amount to nearly 400, a number we believe exceeding any other society in the kingdom. In consequence of the Ladies' Bazaar for the Ross Free Schools, the show-room was never so filled with rank and fashion, among whom we noticed all the families of distinction in and about that fashionable and delightful neighbourhood, and on no previous show was the room so exquisitely clad with Flora's choicest gems. The grand stand contained a miscellaneous collection of tender and hardy plants and flowers, and the delighted eye never dwelt on a more enchanting sight. The collection of roses was tastefully placed on a table at the foot of the grand stand, but we thought them not equal to those of last year. The stage of pinks surpassed any thing we ever before witnessed, and the Ross florists never entered the field more gloriously. The table of ranunculuses, too, was very choice, and the various colours sparkled beautifully from the Society's bottle-stands. The table of strawberries was well filled, the productions were particularly large, and the silver medal prize was never so well contested; seven growers exhibiting for it. The specimens of cherries were good, and a plate of apples from Henry Barnet, Esq., was much admired. The row of cauliflower heads, about twenty in number, was also very fine. The lady of Gen. Sir Robert Brownrigge, Bart., sent a noble specimen of the leaf of the Oriental gigantic palm, or talipot tree, (*Corypha umbraculifera*) which was taken from a tree in Ceylon, upwards of 100 ft. high. This noble specimen measured 40 ft. in circumference, and being placed behind the prize-stand formed a fan-like screen, singularly interesting and unique. The number of specimens ticketed and entered into the Society's books amounted to 893, and the evening sale produced 1*l.* 4*s.* 10*d.* The prizes were awarded as under : —

Ranunculuses. Dark : 1. Vortonox, Mr. T. Edwards ; 2. Vincent's Admiral, Mrs. Westfaling ; 3. Jupiter, Mr. Reynolds ; 4. Leo, Mr. T. Edwards ; 5. Temeraire, John Cooke, Esq. *Light* : 1. Rose Flake, Miss Trusted ; 2. Pompelia, and 3. Theresa, Mr. Reynolds ; 4. Lucrece, Mrs. Platt ; 5. Camellia, Mr. Reynolds.

Pinks. Black and White : 1. Maltby's Apollo, Col. Money ; 2. Birch's Maid of Kent, Messrs. Breese and Reynolds ; 3. Black-eyed Susan, seedling, Mrs. Westfaling ; 4. Davy's eclipse, Mr. Reynolds ; 5. Greenwood's Beauty of Wallingford, Col. Money. *Purple-laced* : 1. Buffaloe's Beauty, Messrs. Breese and Reynolds ; 2. Haslam's Ruler, Mr. T. Edwards ; 3. Royal George, Mrs. Platt ; 4. Salter's Imperial, Mr. Reynolds ; 5. Corbett's New Seedling, Mr. T. Edwards. *Red-laced* : 1. Rattus's Seedling, 2. Stephen's Waterloo, and 3. Vandemburgh's Standard, Messrs. Breese and Reynolds ; 4. Glory of Newport, C. Biss, Esq. ; 5. Waterloo, Messrs. Breese and Reynolds.

Roses. Dark : 1. Tuscany, Mrs. Westfaling ; 2. Royal Scarlet, Mr. Reynolds ; 3. Frizzle, Mrs. Webb ; 4. Biconica, Mrs. Platt ; 5. The Shell, C. Biss, Esq. *Light* : 1. White Moss, J. Cooke, Esq. ; 2. Unique, Mr. Rey-

nolds; 3. Cabbage Provens, T. Rudge, Esq.; 4. Lee's Perpetual, Messrs. Breese and Reynolds; 5. Moss de Manx, Mrs. Westfaling.

Plants. Stove or Green-house: 1. *Platylòbium formòsum*, J. Cooke, Esq.; 2. *Lambèrtii*, and 3. Young's Scarlet Geranium, Rev. T. Underwood; 4. *Erica ventricòsa supérba*, and 5. *Crássula coccínea*, Mrs. Westfaling. *Hardy:* 1. *Kálmia latifòlia*, Mrs. Westfaling; 2. *Spiræa ulmifòlia*, Mr. Reynolds; 3. *Digitális álba*, Mr. Reynolds; 4. *Campanula persicifòlia*, Mrs. Platt; 5. *Dianthus flore plèno*, Mr. Reynolds.

Fruit. Strawberries: 1. Kean's Seedling, Mr. T. E. Jones; 2. Carolina, Mrs. Westfaling; 3. Hautboy, Miss Harvey; 4. Roseberry, and 5. Bath Scarlet, Col. Money. *Cherries:* 1. Early May, Mrs. Westfaling; 2. May Duke, R. Compton, Esq.; 3. Dredge's Early, and 4. Elton, Mr. Barrett; 5. Amber, Mr. Sharp.

Cauliflowers. 1. Mr. Reynolds; 2. J. Cooke, Esq.; 3. Rev. L. Robertson; 4. Mr. Reynolds; 5. J. Cooke, Esq. (*Hereford Journ.*, June 25.)

Gloucester Horticultural Society.—We are rejoiced to observe the happy and favourable auspices under which this useful institution is established, the appearance of the first show on the 23d of May, holding out a prospect most flattering to those who have so meritoriously exerted themselves in promoting the undertaking. Although rather late in the season, the display of tulips was remarkably fine, even in the eye of the more experienced connoisseur; and the exhibition of geraniums and heaths, and of a great variety of rare, beautiful, and magnificent stove and green-house plants, was such as to give extreme gratification to all present. If any thing could vie with the bounteous gifts of Flora, which were concentrated upon this occasion, it would be the splendid assemblage of company, which comprised all the beauty and fashion in the neighbourhood. We were much pleased with the exertions of the inhabitants of Ross and its vicinity, who, with great liberality, came forward to support an association in a more extensive district, which may ultimately become a powerful rival to their own celebrated Society. The number of specimens exhibited on this occasion, amounted to not less than 900. To enumerate the generous contributors to this splendid show would be an endless task, and it would be equally in vain to attempt to particularise all the specimens set forth; but amongst the most prominent, which, in addition to those named in the prize list below, excited general admiration, we may mention a superb *Cactus speciosíssima*, contributed by Mrs. Dowdeswell, and the *Musa paradisiaca*, or plantain tree of Linnæus, the *Phœnix dactylífera*, or date palm, and the *Ficus elásticus*, or India rubber tree, all exhibited by Mr. Jessop, of this town. Mr. Westfaling also forwarded some very curious botanical productions. The high gratification afforded to the spectators by these rare specimens, we are confident, will operate as a stimulus to others to afford similar aid upon future occasions. The show of vegetables was remarkably fine, and those which remained unclaimed at the appointed hour, were sold for the benefit of the fund, which already boasts of three hundred truly respectable subscribers. Henry Rosser, Esq., of Mitcheldean, Richmond Shute, Esq., and William Hooper, Esq., of Ross, were appointed judges, and the prizes were awarded as follows:—

Tulips Feathered Bizard: 1. Captain White, Mr. Cary Cocks; 2. T. B. Parkyns, Esq.; 3. Trafalgar, Mr. C. Cocks; 4. T. B. Parkyns, Esq.; 5. Bell's King, Mr. Cary Cocks. *Flamed Bizard:* 1 and 2. T. B. Parkyns; 3 and 4. Mr. Cary Cocks; 5. T. B. Parkyns, Esq. *Feathered Bybloemen:* 1, 2, 3, 4. Black Baguet, and 5. Grand Villidur, Mr. C. Cocks. *Flamed Bybloemen:* 1. Washington, Mrs. T. Rudge; 2. Neat and Clean, and 3. Prince Sovereign, Mr. C. Cocks; 4. T. B. Parkyns, Esq.; 5. Mrs. T. Rudge. *Feathered Rose:* 1. *Ceres prima*, Mr. C. Cocks; 2. Mr. J. D. Wheeler; 3 and 4. *Rose unique*, Mr. C. Cocks; 5. T. B. Parkyns, Esq. *Flamed Rose:* 1.

La Belle Gabrielle, Mrs. T. Rudge; 2. **Mr. D. Earl**, Albion Brewery, Cheltenham; 3. **Rose Hebe**, Mrs. T. Rudge; 4. **Triomphe Royale**, Mr. C. Cocks; 5. **T. B. Parkyns**, Esq.

Anemones. *Dark*: 1 and 2. **T. B. Parkyns**, Esq.; 3. **Mrs. T. Rudge**; 4 and 5. **T. B. Parkyns**, Esq. *Light*: 1. **B. Bonnor**, Esq.; 2 and 3. **T. B. Parkyns**, Esq.; 4. **Mr. C. Cocks**; 5. **T. B. Parkyns**, Esq.

Plants. *Store*: 1. **Amaryllis vittata**, Mr. J. C. Wheeler; 2. **Cactus speciosa**, Mr. J. D. Wheeler; 3. **Hoja carnosa**, Mrs. Westfaling; 4. **Gardènia radicans**, Mr. C. Jessop, Nursery Gardens, Cheltenham; 5. **Gardènia florida**, Mr. J. C. Wheeler. *Green-house*: 1. **Camellia Sasangua rosea**, Mr. J. C. Wheeler; 2. **Erica ventricosa coccinea**, Mr. J. D. Wheeler; 3. **Erica Westfalingia**, Mrs. Westfaling; 4. **Erica cylindrica**, and 5. **Erica ventricosa superba**, Mr. J. D. Wheeler. *Hardy*: 1. **Kalmia latifolia**, Mr. J. C. Wheeler; 2. **Rhododendron ponticum**, J. Walters, Esq.; 3. **Azalea coccinea**, 4. **Paeonia albiflora**, and 5. **Anthericum Liliago**, Mr. J. D. Wheeler.

Geraniums. 1. **Maid of Orleans**, and 2. **Albino tatum**, Mr. J. C. Wheeler; 3. **Spectabile striatum**, Mrs. Westfaling; 4. **Micranthon**, and 5. **Pulcherrimum superbum**, Mr. J. D. Wheeler.

Culinary Vegetables. *Asparagus*: 1. **Mr. Blond**; 2. **Mr. R. Holbert**; 3. **R. Canning**, Esq.; 4. **Mr. Hair**; 5. **Mr. Lumsdaine**. *Green Peas*: 1, 2, 3, and 4. **Mrs. Westfaling**; 5. **Mrs. T. Rudge**. (*Chelt. Chron.* May 29.)

The *second public Show* of this Society was held on the 23d of June. The exhibition was strikingly beautiful, both in condition and variety, and, considering the infant state of the Society, reflected the highest credit upon the Gloucester horticulturists, as they were, from circumstances, deprived of any assistance from their Ross friends, and consequently had to depend entirely upon their own efforts. (*Hereford Journal*, June 25.)

The *Vale of Evesham Horticultural Society* held their exhibition of specimens for prizes on the 17th of April, which was, notwithstanding the unfavourable weather, abundantly supplied with interesting and superior productions, and visited by a numerous and respectable assembly. Prizes were awarded as follows:—

Auriculas. *Green-edged*: 1 and 2. **Mr. Holmes**; 3. **Mr. Davies**. *White-edged*: 1 and 2. **Mr. Hodges**; 3. **Mr. Valencourt**. *Selfs*: 1. and 2. **Mr. Holmes**; 3. **Mr. Valencourt**. *Alpines*: 1. **Mr. Davies**; 2. **Mr. Valencourt**.

Polyanthuses. *Dark*: 1 and 2. **Mr. Valencourt**; 3. **Mr. Holmes**. *Red*: 1, 2, and 3. **Mr. Valencourt**. *Blue*: 1. **Mr. Racster**; 2 and 3. **Mr. Valencourt**. *White*: 1. and 2. **Mr. Valencourt**; 3. **Mr. Mayfield**.

Plants. *Stove and Green-house*: 1. **Mr. Fulton**; 2. **Mr. Hodges**; 3. **Edward Rudge**, Esq. *Hardy*: 1. **Rev. Mr. Grattan**; 2. **Mr. Davies**.

Culinary Vegetables. *Sea-kale*: **Mr. Valencourt**. *Cucumbers*: **Mr. Fulton**. *Broccoli*: 1. **Mr. Agg**; 2. **Mr. Hodges**. *Cabbages*: **Mr. Hodges**.

After the prizes were awarded, the Society retired to the Northwick Arms Inn, and there partook of an excellent dinner; their worthy President, Edward Rudge, Esq. in the chair. (*Worcester Herald*, April 26.)

The *Shrewsbury Auricula and Polyanthus Show* was held on the 21st of April, when prizes were awarded for the following flowers:—

Auriculas. *Best Bloom*: **Grimes's Privateer**. *Green-edged*: 1. **Dean's Smoker**, 2. **Barlow's King**, 3. **Clegg's Lady of Honour**, 4. **Pollit's Highland Boy**, 5. **Stretch's Alexander**, 6. **Moore's Jubilee**, 7. **Gorton's Champion**, 8. **Chilcot's King**. *Grey-edged*: 1. **Kenyon's Ringleader**, 2. **Grimes's Privateer**, 3. **Howard's Nelson**, 4. **Ashworth's Man of War**, 5. **Rider's Waterloo**, 6. **Thomson's Revenge**, 7. **Hall's Major Cartwright**, 8. **Hey's Lovely Anne**. *White-edged*: 1. **Taylor's Glory**, 2. **Lee's Earl Grosvenor**, 3. **Popplewell's Conqueror**, 4. **Schofield's Maid of the Mill**, 5. **Hughes's Pillar of Beauty**, 6. **Pendleton's Violet**, 7. **Pott's Regulator**, 8. **Arden's Empress of Russia**. *Selfs*: 1. **Berry's Lord Lee**, 2. **Berry's Lord Primate**, 3. **Cox's Bishop of**

Lichfield, 4. Schofield's Ned Lud, 5. Grimes's Flora's Flag, 6. Gorton's Stadtholder. *Alpines, or Shaded Selfs*: 1. Alpine Seedling, 2. Paddy Carey.

Polyanthuses. 1. Pearson's Alexander, 2. Cutler's Duke of York, 3. Pugh's Navarino, 4. Browne's King, 5. Turner's Emperor, 6. Lee's Venus, 7. Fletcher's Lord Hill, 8. Cox's Regent.—*Thomas Pugh, Secretary. May 23. 1828.*

Chelmsford and Essex Horticultural Society, June 24.—The first prize for strawberries was awarded by the members present, to P. King, Esq., of Broomfield Lodge, for a plate of Wilmot's Superb, which were of extraordinary size and beauty. The second to J. Disney, Esq., of the Hyde, Ingatestone, for a plate of Carolina, and another of Keen's Seedling, both fine specimens of the kind. A plate of the Black Prince, shown by Mr. Trowsell, of this town, was much admired. A dish of very fine French beans, and some lettuces, grown by Mr. Cowland, attracted much notice. One of the latter measured 2 ft. 4 in. over, and weighed 3 lbs. 14 oz. The rewards for the three best stands of pinks were adjudged by J. Disney, Esq., Mr. Curtis, jun., and Mr. Wicks, as under:—

1. Mr. E. Sorrell, 2. Mr. Jonathan Harris, 3. Mr. John Harris. (*Chelmsford Chronicle, June 27.*)

The Devonport Annual Show of Auriculas and Polyanthuses was held on April 23d, when prizes were adjudged to the following florists:—Messrs. Quick, Rowe, Pontey, Barrett, Doidge, and Horn. The display of flowers was not very great, many of the plants having been injured by the moisture of the past winter.—*A Pontey, Nurseryman. Plymouth, May 13. 1828.*

ART. VI. *Comparative Notices of Gardens and Grounds.*

IN the course of the last two months we have glanced at upwards of fifty gardens, exclusive of nurseries and market-gardens, within forty miles of the metropolis, all of more or less note, in search of something to commend. We regret to say that on the whole we were disappointed. There seems to be a much greater desire to procure novelties, and especially new fruits and flowers, than to make the most of those already in cultivation, or even to introduce new hardy shrubs and trees. There seems, in the possessors of gardens, a decided preference for the beauties or uses of individual objects, over those beauties which have reference to the whole of any scene or place, and which are the result of design and taste in the contriver. In short, it is perfectly evident, that however much the taste for the productions of gardening, as an art of culture, however much the taste for rare exotic plants, fine flowers, and rich fruits, and a knowledge of their culture have increased, yet that gardening, as an art of design and taste, has not advanced in any thing like the same proportion. Indeed we might safely say that this branch of gardening has remained dormant for the last thirty years. Fewer absurdities are now committed than before the writings of Price appeared, but, at the same time, no beauties are attempted, or but very few. Something is obviously required to call the attention of gardeners and their employers to this department of their art, and prevent them from being wholly absorbed in the culture of culinary vegetables and fruits. It would be some satisfaction to see this taste neutralised a little by a more general feeling in favour of the new and beautiful hardy trees and shrubs, which may now be procured from the principal nurseries, and which, when distributed through the different parks and pleasure-grounds of the country,

would confer on them a great additional interest : but the country gentlemen are almost as indifferent to *barren* trees as to landscape-gardening. We are persuaded it is only requisite to bring both subjects properly before them ; and such of our readers as are of this opinion will, we hope, cooperate with us in discussing the subject, and especially in pointing out the beauties or defects of such gardens and grounds as the public are admitted to inspect.

Of the gardens which we lately entered, we shall pass over a number in which we found little or nothing to commend, and only enumerate such as are remarkable for some feature of nature or art, for high order and keeping, or for both. Of some of these gardens we have prepared detailed notices, which will appear as soon as we can find room.

Pains Hill, Surrey, (May 11.) exhibits a fine example of what may be done by wood on a varied surface, and it contains all the rare hardy trees and shrubs of the time in which it was planted. In point of landscape-gardening, few places, either old or new, are equal to it ; and though every where there are marks of neglect and decay, yet to us they offend less here than perhaps any where else. The imagination is carried back to Hamilton, who created the place, to its previous state, and to the circumstances of the time in which it was created. — *Bagshot Park* (May 13th) contains the flower-garden of the Duchess of Gloucester, very well stocked with plants, and containing an increasing arboretum ; the whole kept in perfect order by Mr. Toward. — *Wimbledon House*, Mrs. Marryat, (May 20th) is altogether a charming place ; the flower-garden contains the rarest and finest plants, under the best cultivation, and in the very highest order and keeping by Mr. Redding. — *Court Lodge*, near Meopham, Kent, Mrs. Markett, (May 31.) contains a tasteful flower-garden ; the flowers, arranged in masses with the eye of a painter, on correct principles of harmony, Mrs. Markett having attained great excellence in painting. We hope soon to be able to impart some of this lady's knowledge on the subject of arranging flowers to our readers. — *Cobham Hall*, Kent, (June 1st) contains a flower-garden, laid out by Lady Darnley, which presents a fine example of the beautiful picturesque, combined with all the rare shrubs and trees of the time in which it was planted, and ornamented with baskets and beds of choice new flowers. It is of considerable extent, and adjoins a menagerie, which adds greatly to the interest of the place. Now, as in July 1825, we found every thing in the best order and keeping, by Mr. Wilkinson, who is indefatigable in his exertions. — *Iford*, Sussex, the Rev. J. S. Lewin, (June 14.) displays some elegant pleasure-ground scenery, and contains a number of rare plants and shrubs. In the entrance-hall of the house is a collection of stuffed birds, shot in the neighbourhood, of which we intend giving a list in the *Magazine of Natural History*. — *Nonsuch Park*, Surrey, S. Farmer, Esq. (June 14.) contains some things worth looking at around the house ; *Linum trigynum* acclimated in the open border, and asparagus beds fifty years old in full bearing ; the whole not badly kept by Mr. Butcher. — *Holm Bush Lodge*, Sussex, T. Broadwood, Esq. (June 15.) is finely situated ; a new house is building in the castle style, and the place will be among the first in this part of the country, if the grounds, which are rather difficult of management, be properly laid out. — *Tilgate Forest Lodge*, Sussex, E. B. Sugden, Esq. (June 16.) is well situated, and might be made something of. — *Tilgate House*, Sussex, Mrs. Lambe, (June 16.) is a finely planted place, and abounds with lakes and streams ; the whole kept in the most appropriate order, Mrs. Lambe being devoted to the subjects of planting and landscape-gardening. In the plantations there is much to admire, and to imitate, and the lawn on the garden front of the house is in perfect order and keeping. — *Flitwick House*, Bedfordshire, John Thomas Brookes, Esq. (July 5. to 10.) has already been characterised (Vol. III. p. 245.), and we shall

hereafter describe some of its leading features. We had now an opportunity of examining it in detail, discovering among new objects of interest, a flower-garden, a copy from that at Dropmore (Vol. III. p. 258. *fig.* 84.), and bearing testimony to the unwearied and successful exertions of Trotter, the gardener.

Ampthill Park, Bedfordshire; Lord Holland. (July 11.) — The view from the centre of the garden front is unique: to the right and left are deep valleys, with richly wooded sides, and in front, at a suitable distance, a vista formed by one of the finest avenues of lime trees in the world. Near this are the ruins of Houghton House, finely situated, and presenting a specimen of an Italian and English house combined. In Ampthill House is a very good collection of stuffed birds, some account of which we intend to give in the *Magazine of Natural History*.

Woburn Abbey. (July 11. and 14.) — A new kitchen-garden is forming here, and an extensive range of hot-houses are erecting, under the direction of Mr. Atkinson. We are happy to see that he has adopted iron rafters and sashes, and upright front glass, instead of opaque walls and wooden shutters. These we consider to be great improvements on his usual mode of construction, and there can be no greater proof of superior sense in an artist or professional man, than the power thus shown of adopting and incorporating the improvements of the times in which he lives. Nothing can be more deplorable than to see a professional man outliving himself, by standing still on the road of usefulness or distinction, like a milestone, while his fellow-travellers pass by and leave him alone. The iron work of the hot-houses is contracted for by Mr. Jones of Birmingham, who has had great experience, and made various improvements in this description of structure. We cannot help regretting the distance at which the different hot-houses in this range are placed apart, nor can we conceive the reason why two pine stoves are placed in front of them, and so as to obstruct the view of the kitchen-garden from the principal window of the gardener's house; but we shall have more to say on this and other subjects in our detailed notice.

Ashridge Park, Hertfordshire; Countess of Bridgewater. (July 15.) — A truly noble park and house, and space suitable for laying out a pleasure-ground as extensive as that of Blenheim; the flower-gardens and conservatories well stocked with rare and showy flowers, judiciously managed and highly kept by Mr. Poynter; the kitchen-garden in excellent cultivation by Mr. Torbron, who, however, cares little or nothing for neatness.

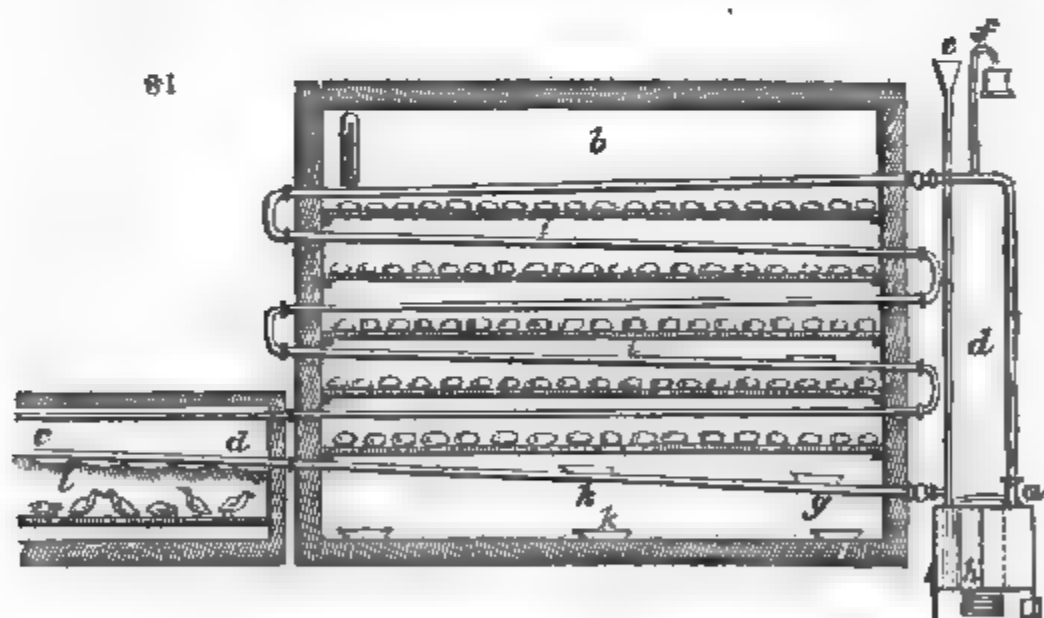
Cashiobury Park, Hertfordshire; the Earl of Essex. (July 15.) — A fine old place; the pleasure-ground rich in the rare trees and shrubs of the time in which it was planted, and the kitchen-garden in excellent cultivation under Mr. Anderson; both gardens in good order.

Tingrith House, Bedfordshire; Robert Trevor, Esq. (July 9.) — As far as order, neatness, and high keeping, the most judicious culture, and the most skilful propagation, are concerned, this place excels all those which we have named. We can assert with truth, that we did not see a single weed, nor, as far as we can remember, a decayed leaf, either in the kitchen-garden or in the pleasure-ground. Some points of practice we hope to receive details of from Phillips the gardener, to whom we have sent Nos. I. and II. of the *Magazine of Natural History*, as a mark of our entire approbation; and we hope his master will continue the work for him, and also give him Arnott's *Elements of Natural Philosophy*, and the *Encyclopædia of Plants*, as soon as published. Mr. Trevor having himself obtained some prizes as a member of the Bantam Society, will, we have no doubt, second our views in wishing to distinguish the exertions of his gardener. Various improvements are in progress here, of which, and also of some successful points of culture and propagation, we hope to be able to speak more at length hereafter.

Milton Bryant Rectory, Bedfordshire; the Rev. W. Mansfield. (July 12.)—This is an elevated spot, of very limited extent, but containing good distant views, and the space in front of the house is laid out as ornamented lawn with the greatest discrimination and taste. There are more rare and beautiful hardy plants here than at Woburn Abbey, or perhaps even at Ashridge, and more painter-like effect, spirit, liveliness, and sweetness in their distribution, than in any one of the flower-gardens which we have mentioned above. The kitchen-garden is nothing, but the ornamented space in front of the house comes up to our *beau ideal* for such a spot. Nothing has pleased us so much, since we saw Bromley Hill and Whitmore Lodge. (Vol. III. p. 246.)

ART. VII. Domestic Economy.

ARTIFICIAL Incubation of Chickens or Silkworms.—We have before (Vol. III. p. 429.) alluded to the invention of M. Bonnemain, for the purpose of hatching chickens without the help of hens, and we shall now give a more complete idea of the apparatus, not only because it may be adopted in some poultry establishments, as we think, may be used for hatching silkworms, and probably for germinating rare seeds or striking cuttings in a glass case, but as furnishing young gardeners of ingenuity with ideas for unforeseen inventions and applications. The boiler of the apparatus is called a *Calorifere* (*calor*, heat, and *fero*, to bear), and consists of a small boiler (fig. 81. *a*), a box or building (*b*) for hatching the eggs, a cage or coop (*c*) for



rearing the chickens, tubes (*d*) for circulating the hot water, a supply tube and funnel (*e*), and a safety tube (*f*). Supposing the water heated in the boiler, it will rise by its specific levity through the tube *a d*, move progressively through all the tubes, and return again to the boiler by the tube *g*, which is inserted in the lid like the other, but passes down to its lower part. (*h*) This circulatory movement once commenced, continues so long as the water is heated in the boiler, because the temperature is never equal throughout all parts of the apparatus. We may readily conceive that a perfect equality of temperature can never exist, on account of the continual loss of heat which escapes from the exterior of all the tubes. Meanwhile the temperature of the air enclosed in the box differs but little from that of the numerous tubes which traverse it; and as the bends of the tubes on the

outside of the box afford but little surface to be cooled by the surrounding air, so the force of the circulation, which is always in the ratio of the difference between the temperatures of the waters passing out of the calorifère and reentering it, does not become greatly diminished, even after having expended a large portion of its heat, on the outside of the box, in maintaining a gentle heat in the cage (c) adjoining to it.

We see, therefore, that the more the water is cooled which passes through the last circumvolutions of the tubes, the more active is the circulation in all parts; and, consequently, the more equal is the temperature of all the tubes which heat the box, and of the air within it: indeed, to prevent the loss of heat as much as possible, the boiler, and all those parts of the tubes which are placed on the exterior of the box, are enveloped in lists of woollen cloth. M. Bonnemain having thus applied these principles with so much skill, is always enabled to maintain in these boxes an equal temperature, varying scarcely so much as half a degree of Reaumur's thermometer; but, as if it was not sufficient to have thus far resolved the problem, he contrived that this degree of temperature in all parts of the stove should be constantly maintained at that point which was found most favourable for promoting incubation. It was by means of an apparatus for regulating the fire, that he attained this desirable object.

The action of this regulator is founded on the unequal dilatation of different metals by heat. A movement is communicated near to the axis of a balanced lever, which lever transmits it by an iron wire to a register in the ash-pit door of the furnace. Combustion is, by this means, abated or increased. The details of this piece of machinery are fully described and delineated in Gill's *Technological Repository* (Feb. 1828, p. 70.); but a much more complete regulator would be the thermometer of Kewley, which we have so often commended to little purpose.

When we would hatch chickens, we light the fire and raise the temperature till we obtain that degree of heat in the box which is fitted for incubation; we then place the eggs near to each other upon the shelves, with borders to them (i i), which are fixed under each row of tubes. It is convenient not to cover, on the first day, more than the twentieth part of the superficies of the shelves, and to add every day, for twenty days, an equal quantity of eggs; so that, on the twenty-first day, the quantity of eggs first placed will be for the greater part hatched; so that we may obtain every day nearly the same number of chickens; but which may, nevertheless, be occasionally regulated by the particular season of the year.

During the first days of incubation, whether natural or artificial, the small portion of water contained within the substance of the egg evaporates through the pores in its shell: this is replaced by a small quantity of air, which is necessary to support the respiration of the chick; but as the atmospheric air which surrounds the eggs in the box at that degree of temperature is either completely dry or but little humid, so the chick would greatly suffer, or finally perish, from this kind of desiccation. The aqueous vapour which exhales from the breathing of the old fowls whilst hatching in some degree prevents this ill effect; but, nevertheless, in dry seasons, this vapour is hardly sufficient; and thus, in order that the eggs may be better hatched in the dry seasons, the hens cover them with the earth of the floor of the granary.

In artificial incubation, to keep the air in the stove constantly humid, they place in it flat vessels, such as plates (k k), filled with water.

When the chickens are hatched, they are removed from the stove, and carried to the cage (c), where they are fed with millet, and nestle under a sheep's skin, with wool on it (l), suspended over them. They also separate, by means of partitions in the cage, the chickens as they are hatched each day, in order to modify their nourishment agreeably to their age.

Artificial incubation is exceedingly useful in furnishing young fowls at those seasons when the hens will not sit, and, in some situations, to produce, or, as we may say indeed, to manufacture a great number of fowls in a small space. (*Gill's Technological Repository*, No. viii. p. 73.)

The Turkish Method of preserving Filberts. — When perfectly ripe, remove the husks, and dry the nuts, by rubbing with a coarse cloth; sprinkle the bottom of a stone jar with a very little salt; then place a layer of filberts, adding a small quantity of salt between each layer. The jar must be perfectly dry and clean. Secure the top from air, and keep them in a dry place; and, at the end of six months, they will peel. — *Isabella M.* April 10.

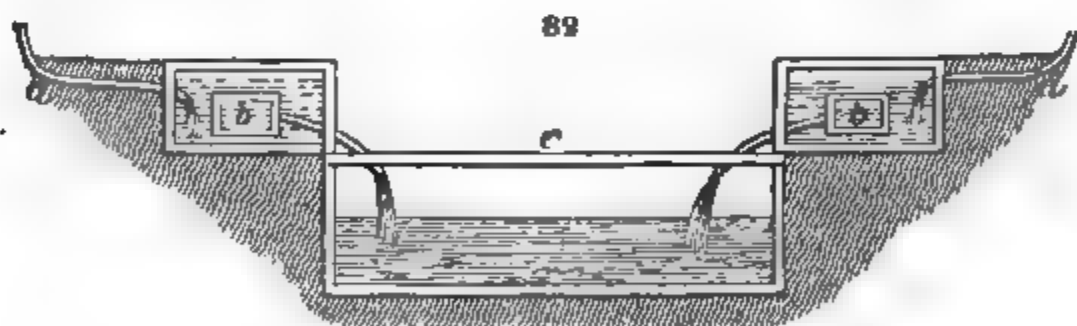
Portland Sago. — In the *Medical Botany* I see the Portland Arum root, or sago, is mentioned. I used the sago from this root for many weeks, and could not discover any difference in it from that of the Indian Arum root produce. To the poor it would be valuable, could one persuade them to be at the trouble of preparing it, which is done exactly as the potato flour is produced from the potato. The produce is, however, more delicate. May is the month in which the Portland peasants prepare it. — *Id.*

Dried Cherries are a very useful article for the dessert in the winter and spring. Nothing can be more easy than to dry them. Gather when ripe, and do not break or bruise the skins; spread them on earthen-ware dishes, and place them in a very cool oven; the next day increase the heat, and, at the end of a few hours, they will be found sufficiently dry for putting into close vessels. The Kentish cherry, being rather acid, requires a longer time than other cherries; but they are also more valuable, because, in fevers, they are used to moisten the mouth. — *Id.*

The Stone-wood Plum, as far as I know, was found wild near Dartford. The fruit is used for tarts and preserves when green, and they make excellent jam and jelly when ripe. I shall let you know more about them by and by; but, in the mean time, I send you a pot, along with a few of the cherries. — *Id.* [Both very good.]

A very ready and elegant mode of procuring Curds, and also a pleasant acidulous whey, is by adding to a glassful of milk a little solution of citric acid, taking care not to add too much. An experiment or two will readily show the quantity necessary to effect the purpose. (*Times*, April 25.)

Filtering Water on a large Scale. — I have a rain-water tank in my courtyard, with which I am very well satisfied. The water is conducted from the gutters of the roofs by pipes (*fig. 82. a a*), which first discharge themselves



into smaller tanks, in each of which is placed, on props, a stone box, 3 ft. square (*b b*). The water filters into these boxes, and from them is conveyed by pipes to the main tank (*c*). The boxes (*b b*) are made with slabs of filtering-stone, dove-tailed and cemented together. The main tank is arched over, and the water drawn from it by a pump. The best filtering-stone is procured from the Island of Fuenteventura, and the next best from the Island of Barbadoes. Both sorts of stones may be procured through Mr. Joseph Bishop, No. 1. Crescent, Minorics, London. — *John Braddick.* Boughton Mount, Kent, Feb. 1827.

Washing Watercresses. — A countryman was seized with the most excruciating pains in his stomach, and which continued for so long a period, that his case became desperate, and his life was even despaired of. In this predicament, the medical gentleman to whom he applied administered to him a most violent emetic, and the result was the ejection of the larva in question, and which remained alive for a quarter of an hour after its expulsion. Upon questioning the man as to how it was likely that the insect got into his stomach, he stated that he was exceedingly fond of watercresses, and often gathered and eat them, and, possibly, without taking due care in freeing them from any aquatic insects they might hold. He was also in the frequent habit of lying down and drinking the water of any clear rivulet when he was thirsty; and thus, in any of these ways, the insect, in its smaller state, might have been swallowed, and remained gradually increasing in size until it was ready for the change into the beetle state; at times, probably, preying upon the inner coat of the stomach, and thus producing the severe pains complained of by the sufferer. (*Gill's Technological Repository.*)

We are surprised we do not hear more of the effects of swallowing the eggs or larva of insects, along with raw salads of different kinds. We would strongly recommend all families who can afford it, to keep in their sculleries a cistern of salt water, or, if they will take the trouble of renewing it frequently, of lime and water; and to have all vegetables to be used raw, first plunged in this cistern for a minute, and then washed in pure fresh water. The paper of our correspondent Mr. Simpson, on the subject of washing salads (Vol. I. p. 29.), is one of the most useful that has appeared in our work, and ought not to be forgotten either by gardeners or cooks.

To dissipate Symptoms of Intoxication. — Put 25 or 30 drops of acetate of ammonia into a glass of sugared water, and if, after drinking one glass, the symptoms do not entirely disappear, repeat the dose with a few additional drops. (*Archives des Découvertes.*)

Summer Drink for Labourers. — Mix a spoonful of honey with the same quantity of spirit, and add a quart of water, by little at a time, so that they may mix intimately. This drink is said to be stimulant, nourishing, and effective in quenching thirst. (*Bul. Un.*)

Vertical Cylinders, with a floating lid to sink as the liquor is drawn off, are recommended as a substitute for common beer barrels. The advantages are obvious, and are recognised by those home-brewers who keep their beer in casks set on end, the head formed on the surface of the liquor, serving as the floating lid of the German economist referred to, and thus, in effect, preserving the beer as effectually as if the cask were constantly full. (*M. Franzius in Oeconom, Neuigk.*, 1827, No. 1.)

Extinction of Fires. — When a chimney or flue is on fire, throw into the fire-place one handful after another of flower of sulphur. This, by its combustion, effects the decomposition of the atmospheric air, which is, in consequence, paralysed, or in effect, annihilated. (*Cadet-de-Vaux.*)

ART. VIII. *Hints for Improvements.*

GARDENS of the Town.—Sir, In my frequent visits to the metropolis, my attention, as a gardener, is often called to the little courts before the houses in the neighbourhood of town. They are generally clothed with grass, which is seldom well kept; and, indeed, as it is too small to be rolled, never looks neat and well. A better thing than this, in my mind, would be, to sow the whole with mignonette, and scatter a few larkspur seeds among it; and, if plenty of crocuses, snowdrops, winter aconites, and *Chrysanthemum indicum* of different colours, were planted in them, the streets would look

very gay, and yield a grateful perfume the whole year through. They would certainly be less expense to the owners, and, with barely weeding now and then, would look lively and gay ten months in the year. — *Rusticus in Urbe. January.*

Adaptation of Fruit Trees to particular Soils. — It would be a very useful thing, if you were to direct the observation of your readers to the different soils which may be planted with advantage with some particular kinds of fruit, some of which, perhaps, are hardly supposed to be capable of producing any, as stiff clay, chalk, pure sand, wet bog, and morass. On the last, I beg to say, medlars, quinces, mulberries, raspberries, black currants, and strawberries, will thrive to admiration. — *Id.*

New and improved Fruits. — By cultivating the crab, wonderful improvements have been made; why might not something be done with the bramble-berry? The double-bearing raspberry produces flowers at the same time with the other; might we not obtain an agreeable fruit between the two? — *Id.*

Improvements from Russia. — While we are at peace with Russia, it would be worth some trouble, to gain all the information in our power respecting their mode of managing their salads during their long winters, and the means they make use of to keep cabbages, cauliflowers, and broccoli. We have many of our countrymen settled there; and, if your publication be known amongst them, nothing would be more easy than to obtain some very useful information. — *Id.*

ART. IX. Garden Libraries.

DEAR Sir, Admiring your extraordinary zeal and generosity in promoting garden libraries, I am sorry to say that I differ entirely from your plan or system, and shall endeavour, as candidly as possible, to give you my reasons for so doing; and to show that I am not prejudiced, I acknowledge that I am not only fond of reading myself, but particularly fond of such as are great readers; but the establishment of a garden library would be, a great sum of money sunk to little purpose. I have often promoted book societies and circulating libraries, but never got either thanks or remuneration for my pains. A friend of mine kept a circulating library in a very populous town, and assured me that it had never paid him 5 per cent for the money sunk; and, positively, gardeners are too insignificant a part of the community to support a library of any importance. I grant that the generality of gardeners are greater readers than the generality of mechanics; but, then, I am acquainted with several excellent gardeners, who may be said to be no readers at all. For instance, a neighbour of mine, gardener to a very worthy baronet, and he himself a no less worthy man, and an excellent gardener, to whom I was recommending your *Encyclopædia*, made me the following reply: "Loudon's, is it? Sir T—— wanted me to read that book; he offered me the loan of it. I told him I wanted no books to instruct me in my business; if a man cannot learn his business without books, he had better give it up at once. I am sure Loudon knows nothing of gardening! I never knew a good gardener who either wrote books or read books!" The above was spoken in company of two more friends. You may judge how I felt and how I looked, when, at the same time, I was acknowledging that almost every thing under his care looked really better than those under mine. Another friend and neighbour threw up his situation in a passion, because his lady brought Mawe's *Calendar* into the kitchen-garden for him to read. And, again, my foreman in the kitchen-garden department, a most worthy creature, has been in the service of my employer for more

than twenty years, and as I should be sorry to hurt his feelings, by dictating to him as I would to a lad, I therefore conduct most of my reformatations in such a manner as not to offend, such as lending books, or recommending certain passages in such books, &c. Not observing that these books had the desired effect, I one day took a peep into his *garden library*, which consisted of a bible and prayer-book of course, *Bunyan's Pilgrim's Progress*, *Prayers and Preparations for worthily receiving the Sacrament*, *Elizabeth Rowe's Devout Exercises*, and *Drelincourt on Death*, all very much the worse for the wear; but *Forsyth on Fruit Trees*, *Speechley on the Pine and Vine*, *M'Phail on the Cucumber*, &c., I could not see had been read at all, from the time I lent them. I asked if he had ever read the books on gardening; he said, "O, yes; but I never see any of them come up to Abercrombie's *Remembrancer*;" who, he seriously assured me, was the very man who wrote Mawe's *Calendar*. This I found to be a catch-penny edition, or rather an eighteen-penny edition, which he continually carried in his pocket, answering the double purpose of oracle and pocketbook.

Now, what would garden libraries do for such characters? But, on the other hand, I have an aspiring young man, whom I have taken considerable pains with, who no sooner knew that I was in possession of your *Encyclopædia*, than he wished to borrow it. "No," said I; "you want to look at the pictures, I suppose. You must give me a better account of the books I have lent you, before you have any more; and I must give you the advice which I give to all young men, 'Learn *one* thing first, and learn it thoroughly; for, if you attempt learning too much at once, you will only turn out a chattering coxcomb.'" And what wise schoolmaster will attempt to teach his pupils algebra before teaching them the alphabet? All, therefore, that I should propose would be, that if any family have a gardener who seems deficient in certain points which they would wish him to excel in, they will help him to such books as particularly treat on such subjects. This might easily be done without giving offence, as in the case of Mawe's *Calendar* alluded to; and head-gardeners should give their men no more books or information than they can take in and digest.

I am very sorry that Mr. M'Murtrie should have so far forgot himself, as to condemn iron-roofed hot-houses with such decided antipathy. Far be it from me to say that I am as good a practical gardener as Mr. M'Murtrie, he having grown several pines larger or heavier than ever I did, by several pounds! But I am sure that experience has taught me, that I could always grow the best fruit in the houses which had the most crown-glass and least timber. The climate of England, Sir, is sufficiently cloudy for tropical plants, without shading them with rafters 7 or or 8 by 10 or 12 in.; and I never could get timber fine enough, and at the same time strong enough: I can now also say the same thing of iron; and, if no difference were in the price, or I had my choice, like Mr. M'Murtrie, and the price no object, I should say, instead of cast-iron, let it be cast-steel, if you please. At the same time, I acknowledge that iron decays very fast, if not well painted from the first; for, if rust ever gets in, all paintings are of little use; but the dry rot in timber is worse. I shall not now take up the case of wood *versus* iron; but being in full practice of making observations on a large and complicated scale, the results may be more correct and satisfactory some future day. I have heard it said that a post or stake of yew tree will last longer in the ground than iron of the same dimensions; and, if I could believe every word that William Cobbett says, I should think that a hot-house built of his locust tree would be a very good one. Speaking of locust trees, I was reading a work on fruit trees by Mr. Henry Phillips, *Pomarium*, &c., wherein he says the locust tree is a native of Jamaica, and is what John the Baptist lived on, instead of beetles, or grubs, as is vulgarly supposed; but how John the Baptist could find Jamaica fruits in the wilder-

ness of Judea, is really past my comprehension. I am, dear Sir, yours, really, — *Agronome*.

Mr. Alfred Kendall's Library.—In answer to your first question, "Do you approve of Garden Libraries?" I would ask, what gardener in his right senses can object to a measure so eminently calculated for his own benefit and amusement? To your second question, "What have you done for them?" my answer is, but little: yet I have done as much for them as the circumstances in which I have been placed would admit of. You will see, in comparing this with my former communications, that I have changed my employer. I had not done so more than a fortnight, when the head of the family I now serve, Sir C. T. Palmer, Bart., died. Thus all hopes of establishing a garden library here are at present cut off, the present baronet being a minor. During the whole of my life spent as a gardener, it has been my lot to be placed in situations where the books I have read, with but few exceptions, have been purchased by myself. After this statement, I think I need not assure you that I feel for the man placed in similar circumstances. My library, though small, (enclosed is a list of its contents [about one hundred well selected volumes],) has always been accessible to every one desirous of improvement, with no other restriction than that of keeping the borrowed books clean.—*Alfred Kendall. Wanlip Hall, Leicestershire, July 7. 1827.*

The Bristol Nursery Library was established on the 1st of August, 1827, in Mr. Millar's nursery, chiefly, we believe, through the exertions of our zealous, intelligent, and active correspondent, Mr. P. Masey, jun. Mr. Millar has contributed liberally to it, and also Mr. Masey; and Messrs. Longman, Rees, and Co., and ourselves, have sent a few volumes. The printed rules and regulations of this library are simple, and, as it appears to us, extremely judicious, and fitting for a pattern to other institutions of the same kind. One article is, "that in case any resolution should pass for breaking up this Society, the books and other property belonging to the same, or the proceeds, after being sold, shall be given to other Garden Libraries, as the Committee may determine." An album, or common-place journal, is kept in the library-room, in order, as Mr. Masey expresses it, "to induce the members to become writing as well as reading gardeners." This album has been sent us for inspection and remark, and we have only to say, that we highly approve of the plan; and, as a proof of the value which we set on the articles inscribed, we have abridged some of them, and extracted others, for insertion in this Magazine. A similar journal, we believe, is kept in the library of the Clapton nursery, in which the lectures delivered by the members of that library are inscribed. The example set by the members of these libraries is well worth the imitation of others.

Lending Libraries have been established at Leyton and Barking, and an attempt has been made on a smaller scale at West Clandon, in Surrey. Some private families have also made the same experiment, "as an improving resource for servants." (*Scotsman*.)

ART. X. *Retrospective Criticism.*

DYER's Retrocoupling Bee-boxes.—Dear Sir, It was my intention to write to you from seeing your opinion upon the common straw hive and suffocating system, both of which I condemn, especially that of suffocating. I perfectly agree with Mr. C. Hale Jessop, who has been beforehand with me in his communication. I beg to state that I do not think Dyer the inventor of retrocoupling, or *lateral*, boxes (Vol. III. p. 414.); you will find the same sort of boxes described in the *Encyclopædia Britan-*

nica, as the invention of the Rev. Mr. White. Mr. Jessop is not the only person who keeps bees in lateral boxes, as I, on seeing the description of them in the *Encyclopædia*, have had such boxes made, with the sort of house to keep them in mentioned by Mr. White. I have also been the means of two persons in my neighbourhood leaving off suffocating, and keeping their bees in such boxes this last year. In my opinion, no persons, with the slightest education, should keep bees in any improved way, until they have read Huber's work on that subject, having repeatedly proved last year the truth of his most beautiful experiment, that of producing a queen bee at pleasure from the egg of a common worker. This is very necessary, in case of accidents, to which bees are always subject. I have not the slightest doubt, but that all Huber advances is true, from his details agreeing so well with what I have observed. I always use the puff balls mentioned by Keys, whose practice is excellent, but whose theory is most contemptible, to fumigate my bees with; as a specimen, he sets it down as a fact, without giving any reason, that working bees are neutrals. — *S. Watts. Willow Place, Kennington Common, March 8.*

Some Observations on the Effects of Frost on Vegetables. (Vol. III. p. 62.) — Professor Link thinks that herbaceous plants are more liable than trees to be destroyed by frost; and stems and young shoots of one year's growth more easily than those of three years' growth, and that because their parts "are formed of only one ring or layer of fibre." This idea is questionable; at least it does not appear to be universally the case, as the young and tender plants of wheat, rye, and many others, are in the course of one winter, stems as well as leaves, repeatedly frozen, and yet remain unhurt. In such cases their hardihood does not arise from their possessing a plurality of fibrous rings, but from their elastic tenacity, which admits of their being frozen, and consequently distended in form, deprived of their rigidity as well as turgidity, and yet without disruption of parts, or laceration of their fibrile structure. — *J. A. M. Feb. 1828.*

On grafting under the Bark. (Vol. III. p. 63.) — The rector of Hoyerswerda is perfectly right, as to the efficiency of grafting under the bark; because it places the parts which form the union in immediate contact. His own objection to it, as well as that of the committee, is, however, futile, because the bark will rise sufficiently for the purpose at any time, especially if the little tool called a messenger be used. This small implement is equally useful in budding and in grafting; and if the handles of budding knives, whether of bone or ivory, were made in the proper form, they would be found to facilitate, as well as expedite the operations. It is nothing more than a slender wedge; flat, or rather a little concave on one side, and convex on the other, tapering to a blunt and thin point. In crown, stem, or branch grafting or budding, after the incisions are made in the bark, the messenger is first passed down, its concave side bearing steadily against the wood of the stock; the bark being thereby raised, the messenger is withdrawn, and the scion (previously cut in shape like the tool) is inserted, and being slightly bound, and well clayed, the operation is finished. The only objection to this mode of grafting is the liability of the grafts to being blown out by the wind long after their insertion, but this may be guarded against by timely support. — *Id.*

Remarks on forcing Cherries. (Vol. III. p. 64.) — This is an excellent paper. One trait of M. Fintelmann's management seems to be original; viz. stopping the most vigorous shoots about the end of June, and thinning the buds, in order to cause such as are left to become blossom buds. This practice we follow in the management of the apricot, apple, &c., but its application to cherries is new, at least as far as my experience goes. Much skill is necessary in performing this, because if done too late, it is of no effect, and if done too soon, the reserved buds on a vigorous shoot will most of them burst, and thereby counteract the pruner's intention. This

premature formation of blossom buds is a curious, and rather unaccountable phenomenon ; because, it is naturally supposed, and by many believed, that all the different essential organs of a healthy tree are constantly in existence, and in a course of regular and successive developement when the external circumstances of light, air, and maturity of wood are present. But (without stopping to enumerate the different kinds of fruit trees which produce their fructiferous shoots and perfect their blossom buds in one year, and those which usually require two or more years in the formation of their leaf buds into those bearing flowers) we have here a description of buds, which M. Fintelmann knows or fears would be leaf buds, changed by his management into those which will be fruitful ; showing, that by such practice, an internal transformation, or additional formation takes place, not easily accounted for.

Without any application of art, we often see flower buds formed on the points of the healthiest shoots of young apple and pear trees, as soon as the rampant summer growth is over, these are called by Harrison (Vol. III. Art. I.), "natural fruit buds ;" and some instances we have of fruit buds, called "embryo buds" by the same writer, which would not blossom till next year, forced into flower in this, especially if any accident from frost or insect prevents the senior buds from perfecting their fruit. This shows that in some cases the fructiferous organs are in a state of previous existence and preparation before expansion. And in the case of a forced or premature formation of the fructive principle, we are driven to conjecture whether there be two constituent crescive elements, and that, while one is in full motion in the production and expansion of wood and leaves, the other invisibly follows, till the first becomes stagnant, and then the second is protruded into form and view. Or, it may be, that in the case of this kind of cherry, its spur-bearing habit may be changed by art into the peculiar property of its congener, the Morella. M. Fintelmann has also, like our countryman Street, discovered that recent vegetable matter, i. e. old sawdust, and chopped moss, mixed with some powdered unburnt lime, is a suitable compost, and may be used successfully in forcing cherries.

I am quite aware that some learned and most profound physiologists get over this difficulty by asserting that the prepared sap is what they call "organisable ;" that is, capable of forming itself, or being formed, into all and every part, organ, shape, colour, or quality composing the plant by which it has itself been produced ; and that it becomes indifferently bark, timber, shoots, leaves, flowers, or fruit, accordingly as external agents are more or less prevalent. If this really be so, then all the science of botanical physiology lies in a nut-shell, and all the ordinary, as well as extraordinary, processes or changes in the vegetable kingdom, may be by this discovery solved without hesitation or doubt. — *J. A. M. Feb. 1828.*

Dutrochet's Botanical Physiology. (Vol. III. p. 78.) — This inquisitive and highly talented naturalist has made some ingenious additions to our stock of physiological knowledge. His illustration of the absorbent spongioles of the roots, which he discovered by microscopic examination, is curious as well as original. Besides a minute description of the tubular and circular structure of the stems of plants, with their respective uses, he also has discovered imbibing or attractive powers in their constituent juices ; detects electricity as an agent in the motion of the fluids ; and, in the whole, delineates a very beautiful theory, which may be faithful, but is not simple, founded on fact, but obscured by technicality ; and it is to be feared that many will apply your own remark, not less excellent than true, with which you close your literary notices (Vol. III. p. 89.), viz. "many branches of knowledge at present are rendered obscure by a multiplicity of words, and by mystical doctrines," &c. — *Id.*

Journal d'Agriculture. (Vol. III. p. 84.) — On the Culture of Tobacco. This you recommend to the notice of the British farmer, but it is not likely

to be adopted by them. "Cultivate necessities and import luxuries," is an old political maxim; and the substitution of tobacco for wheat (it requiring the same preparation of land), can never be either a pleasant or a profitable speculation with the farmer. The extract, however, may be useful to private individuals. — *J. A. M. Feb. 1828.*

Dr. Mitchell's Address. (Vol. III. p. 86.) — There is more truth, common sense, and sound philosophy in this address, than have emanated from learned societies for a long time; his general views are excellent, his opinions of meteorological instruments erudite, and his advice for the general diffusion of knowledge as judicious as honourable to his head and heart. — *Id.*

Paragrêles are said to be useful (Vol. III. p. 88.) — In England we happen to possess myriads of them, which fashion has unintentionally provided, viz. the iron palisades, which now surround every mansion in town, and every villa in the country. These are most efficient paragrêles, and it will be well if their multiplication do not cause another effect, equally disastrous, namely, an excess of unseasonable rain! — *Id.*

Miscellaneous Intelligence (Vol. III. p. 90.) contains a curious article on the "metamorphoses of male and female plants." Experiments with the common hemp, have proved that they are convertible into each other, and that the soil, season, or management will occasion the change. On the subject you add, "so that each seed appears to contain a germ for the developement of either sex." This single idea is so rational, that it is in itself, when applied, as it may be, to vegetation in general, worth all the "organisable matter" which ever flowed from the teeming brain of the most conceptive physiologist that ever lived! — *Id.*

Oatlands. (Vol. III. p. 24.) — Vines that are always in the pinery are, nevertheless, productive. This seems to show that we are mistaken in the supposition that all extra-tropical plants require a winter's rest. But, in such a case, we know that the reduced temperature of our autumn has some checking influence on vines so placed, and the question still remains unanswered — would they not be better if they had a winter's rest? Yes, certainly. Vines planted within the tropics never do well. The continual excitement renders them weak, irregular in growth, and almost always barren. — *Id.*

Covering Ranunculus Seed. — In Mr. Waterson's directions on this subject (Vol. III. p. 310.), there must surely be an error of the press. He says, cover an inch and a half. On turning to your *Encyclopædia*, you say, cover the thickness of a half-crown piece. How do you reconcile the difference? — *Rana. Feb. 11. 1828.*

Our correspondent is right in conjecturing an error of the press to be the cause. The passage ought to stand thus: — "The coarse parts of the soil were reserved for the bottom of the boxes, which were of wood, 18 in. long, 10 deep, and 12 broad, with holes bored in the bottom. About 2 in. of the bottom were covered with the refuse, then 6 in. of the sifted mould, which left 2 in. I then took a watering pot with a very fine rose, and completely saturated the earth in the boxes. I next put in about 1½ in. of the same mould, which was previously passed through a very fine sieve; the fine mould soon absorbed from beneath as much moisture as was necessary to render it fit to receive the seed. In some of the boxes I covered the seed very slightly at once; with others I followed the plan recommended by Maddock, of covering by degrees; both ways succeeded equally well." (*Memoirs Caled. Hort. Soc.*)

Cotylèdon umbilicus. — Young gardeners are recommended to avoid the common error of pronouncing these words Cotýledon umbílicus. Monocotylèdon, is frequently pronounced Monocotýledon, which is also wrong. — *S.*

Removing large Fruit Trees (Vol. III. p. 354.), even in summer, by puddling the soil, is particularly described in Bradley's *Four Elements*, 2d edit. 8vo, 1733, p. 124., as being first used by Mr. Secretary Johnstoun, of Twickenham. — *Superficial. Brixton Villa, Jan.*

Mulberry Trees (Vol. III. p. 355.) — The white mulberry, for feeding silkworms, is recommended by the author of the *Farmer's Assistant*, Albany, 1814, to be raised in hedges, on the authority of a M. de la Bigarre. — *Id.*

Van Oosten's Dutch Gardener (Vol. III. p. 380.) is certainly a compiled book. The whole of the first part on fruit trees, the plates, and the descriptions, are copied from the *Art of Pruning Fruit Trees*, a translation from the French, and published in London in 1685. Van Oosten was published in 1703. I mention this to show how little faith is to be placed in such a book. — *Id.*

Toads do not eat Slugs. — The opinion of Rusticus in Urbe is not correct, when he thinks toads live on slugs. When I came here, there was a large toad in my early cucumber frame, and I encouraged him, in hopes he would clean it of these worms; but in this I was greatly mistaken, for they have since destroyed many sorts of young seedling plants, but the woodlice are rarely to be seen near his abode. — *G. M. Atherstone Gardens.*

The Scotch Pine and the Quarterly Review. — A correspondent, an eminent nurseryman in the north, observes: — "I was much amused with the *Quarterly's* spurious Canadian Scotch Pine, which, he says, we Scotch nurserymen now cultivate for the genuine variety; but we are not obliged to take the *ipse dixit* of the *Quarterly* himself for an assertion of this nature. When he knows so accurately the time of its introduction, might he not also have favoured us with its introducer's name, and told us the place where it was first cultivated. I fear this would have puzzled him, since I am quite certain we are not indebted to America for any variety of the Scotch pine, unless you choose to continue to call the Tartarian (Lambert's *P. Banksiana*), one; which, you know, is still a very rare sort in this country, though Don, in his paper to the Caledonian Horticultural Society, thought he found it growing in the woods about Forfar! But the Tartarian, as Mr. Lambert remarks, may be readily distinguished by its crooked cone.

"In noticing this strange story of the *Quarterly*, I see he has mixed up with it a very old one, which, I thought, had long been forgotten; namely, that we have two varieties of the Scotch pine, a *red* and a *white*. This idea, however, never gained any ground among scientific people, nor have any attempts been yet made by its best supporters, to define these two varieties in any other way than by the richness and colour of their timber, after the trees have arrived at a full state of maturity; a strange idea, indeed, on which to found specific distinction! Yet it is this very idea, 'a new toot on an old horn,' which the *Quarterly* wishes to revive, and which, it would appear, has excited in your mind so much alarm for the poor Scotch nurserymen. Your feelings, my dear Sir, are creditable to you, and deserve our best thanks. But to return. He dresses his story up, and, very properly, into a new one of his own; for nothing but novelties will, nowadays, please. He even goes so far as to assert that his red variety can only be found in the native forests of the Highlands: but, with all due respect to the writer, this is not correct; for we have three natural forests of considerable extent in this county, namely, Mar, Invercauld, and Glentanner, and, in all of them, the *Quarterly's* red and white varieties may be found, varying only according to the nature of soil on which they happen to grow. I have always asked the advocates of this opinion, if they ever found their red variety growing on any other soil than a hazelly loam; and it may be here remarked that this description of soil, though of a very light and sandy nature, seems to be the best of all for bringing fir timber to its greatest degree of perfection. I might say much more relating to our

native pine, and even correct other mistakes which the *Quarterly's* imagination seems to have led him into ; but I shall content myself with briefly remarking, at present, that I have been long of opinion that they have other and more valuable varieties on the Continent, for producing the fine timber which we annually import from the Baltic, by the trade names of Swedish crown timber, Dantzic plank, Norway spars, &c. Of all these the Norway spars are the most remarkable ; for, though of small size, and apparently not more than 30 years old, they are without sap-wood, clean, hard, and full of resin. Can this be the Mugho pine, Lambert's *P. pumilio* ? We know it covers the mountains of Hungary, Switzerland, and Dauphinè, and why not the mountains further to the north ? The Levers call it the Torch pine, from the richness and red colour of its wood ; and Villars says, when cultivated in lower situations, the shortness of its stem, and other alpine properties, disappear ; insomuch that it cannot be distinguished from the common Scotch pine. But more of this hereafter.

" I am astonished to see you so much in love with the barbarous, but too fashionable, practice of heading down trees by the ground, for the alleged purpose of curing their stunted habit of growth. Are you not aware that this practice destroys their seminal, or primary, and consequently most natural, existence ; and that if a tree had not the peculiar nature of a viviparous reproduction, it would immediately die ? Examine trees which have been so treated about 20 or 30 years back, and you will already see them forming the characteristic outline of their full growth, which evidently implies a premature old age. Trees so treated will never acquire the size and strength necessary to form great timber." — *J. R. Aberdeen, June 20.*

Two Crops of Potatoes in one Season (p. 355.) is certainly ingenious, but would the last crop be ripe ? I have an Irish servant, who has been employed all her younger days in farming in Ireland, who, on my sending home some red potatoes this year, without touching them, said they were not old enough, and her explanation was, they were too late planted. I had some potatoes sent as a present, on which she made the same observation, and said that in Ireland they would put them in a warm loft over the kitchen for a month or two. Having kept the potatoes dry for six weeks, they became good ; when tried at first, they were waxy and watery. Is not this observation worth noticing by those whose potatoes are in the same state ? and may not planters of potatoes take the hint and plant earlier, when they wish to grow mealy potatoes, as the girl's observation shows that they require a longer period in the ground to make them so, than is often given them ? — *Superficial. Brixton Villa, January.*

Coccus ovatus. — J. M. is mistaken, in supposing that urine and lime-water will kill this insect ; I am very much annoyed with it on apple as well as pear trees. I have tried Mr. Harrison's winter dressing, and other strong washes of soft soap, sulphur, turpentine, camphor, black pepper, tobacco, lime, and a small portion of sweet oil, and all without effect ! Last winter, I whitewashed a pear tree all over with quicklime, except one branch, which I dressed with sweet oil. The oil killed the greater part of the insects, and at the same time, many of the buds ; but the branch is now healthy, and again covered with young insects. I first noticed this insect at Arley Hall, in 1824, and, three years ago, I found it here on many of the pear-trees. It keeps annually increasing, and is now on almost every pear and apple wall tree in the garden. Two years ago, I sent a specimen of the insect to the Horticultural Society of London, but have had no information from that quarter regarding it. I hope some of your correspondents will have the goodness to give their advice on this subject, as it is a new kind of pest, which, if possible, should be got rid of. — *Id.*

Exercise of Humanity in killing Insects. — Sir, In a Number of your excellent Magazine, published some time ago (Vol. II. p. 278.), mention is

made of a kind of mousetrap formed by an empty flower-pot buried in the soil, with the bottom on a level with the surface. Now, the unfortunate animal must, by this means, be subjected, as it appears to me, to perhaps the most agonising of all deaths, dying by inches of hunger and thirst. I have no doubt that the effect I have pointed out did not occur to your correspondent; and he, I dare say, as well as your other correspondents, will excuse my suggesting the use of any kind of trap by which vermin may be instantly killed, instead of being subjected to the agonies of a lingering death. I hope my motive will afford an excuse with you for this intrusion, and I remain, Sir, yours, &c. — *Agrestis*.

Every humane gardener will sympathise with us in feeling grateful to this correspondent, for recalling our minds to those general principles of justice and humanity which ought to be exercised in every case, both in calling beings into existence, and in depriving those which are in existence of life, or even of liberty. We take blame to ourselves for not having long since adverted to the subject; but now that the idea has been put forth by *Agrestis*, we trust an impression will be made on the minds of gardeners, by discussion in this Magazine, and that decided humanity will in future prevail in practice. Let every young gardener, before he kills a slug, a worm, or a caterpillar, imagine how the act would be performed by *Agrestis*, or by Mr. French. (p. 188.) — *Cond.*

ART. XI. *Queries and Answers to Queries.*

WIRE-WORM. — My dear Sir, According to the idea suggested to me in your letter, I have tried slices of potato, turnip, parsnep, and carrot, as bait for the wire-worm; and a thought having struck me that beet-root, from its saccharine nature, might attract them, I cut some up, as well as slices of the stalks of broccoli and other cabbage, to which, and the beet, they certainly give a preference. The destruction of the worm by this simple process, is astonishing. I find frequently two, three, and four attached to the bait, which I place on each side of the plant I wish to protect, about two or three inches under the surface, with a small stick thrust into it, so that, in an instant, I can examine the spot. I feel most grateful to you for the hint, as, no doubt, by a little attention, I shall save many plants this season from certain destruction; as well as in the end, most probably, exterminate the worm altogether. I am, my dear Sir, &c. — *A. B. B.*

Destroying the Wire-worm, in reply to A. B. B. (Vol. III. p. 493.) — Burying a slice of turnip, or broccoli stump, nearly close to the plants most likely to be infested, will, in a great measure, prevent their destruction. Being much annoyed by them in a new flower-garden made last winter, I put lime and different things round the plants, but to no purpose. I then had recourse to the above remedy; and, by examining the slices twice a week, I soon found them greatly diminished, and, in fact, scarcely lost a plant after the application. Yours, &c. — *Frederick Mould. Avington, March 11.*

Wire-worms, in answer to A. B. B. (Vol. III. p. 494.) — In my opinion, sliced potatoes, turnips, or apples, are not attractive baits for wire-worms; though sliced turnips and cabbage-leaves are so for slugs. I find young lettuce plants the best baits; and a constant succession of young plants ought to be kept from March till November, in gardens in which they abound. The plants, of course, will require to be constantly examined; and a small sum per score ought to be given, by way of inducement, to boys or other labourers to catch them. Most birds are fond of wire-worms, but they have some difficulty in finding them; for, though they keep near the surface of the ground in the spring, summer, and autumn months, they very seldom

are seen, I believe, above it. They feed on different kinds of grasses, young plants of wheat, pinks, &c. &c., which they attack just above their roots, and perforate through and through. Redbreasts are particularly fond of them. One of my sons had a tame jackdaw; he also eat them, as well as grubs, and the white-coloured slugs. A tame pheasant or two, with their wings shortened, might be kept in an enclosed garden; it is said that they and partridges evince much sagacity in finding them. — *Thomas Hogg, Florist. Paddington, March, 1828.*

Sorts of Mulberry for rearing the Silkworm, in answer to J. S. (Vol. III. p. 379.) — Sir, in answer to the queries which appeared in your Magazine, addressed to the British, Irish, and Colonial Silk Company, I beg leave to state, 1st, that the company have, through their agents abroad, obtained some hundred thousand plants of the ordinary wild and grafted varieties of the white mulberry usually cultivated in Italy, France, and Sicily. Besides which, they have obtained grafts of the following valuable, but less common varieties: —

Morus álba latifolia hispánica.

Morus lúcida constantinopolitana.

Morus constantinopolitana nana;
very valuable from its dwarf
growth.

Morus tartárica, and chinénsis.

These two species are those culti-

vated by the Chinese, and have
only lately been imported into
Europe.

Morus rubra canadensis; grows ra-
pidly to a large size.

Morus nigra laciniata.

2d. That the company have now extensive nurseries, and are ready to enter into arrangements to supply any individual desirous of cultivating this valuable and handsome tree, with the usual varieties, upon application to the Secretary, No. 10½ King's Arms Yard, Coleman Street, as well as with directions for its management. It is, however, a very hardy plant, requiring little or no attention. The best and most copious work upon the culture of the White Mulberry, is that by Sauvages in the French language.

It would be desirable to have early intimation from those individuals who wish to be supplied with plants, as in case the quantity required be large, the agent of the company abroad would be directed to furnish a sufficient supply. I am, Sir, your most obedient servant. — *P. H. Abbot, Sec. British, Irish, and Colonial Silk Company, 10½ King's Arms Yard, Coleman Street.*

To cleanse Hot-house Flues. — If your correspondent G. (p. 183.) will adopt the following plan, he may rid himself of "dust and confusion," as well as the "man Friday." Build in *rollers* at all the salient angles within, and one at the top of the upright chimney; over this and the rest of the rollers a conducting endless chain passes, to any part of which a brush is fixed, and by being drawn backwards and forwards, clears the flue of the soot. This, however, requires a door to be made at the bottom of the chimney to give access to the conducting chain, and to allow of the discharge of the soot. The chain is a fixture, and necessarily always remains in the flue. Mr. Lyon's newly invented mode of sweeping chimneys (*Kaleidoscope*, anno 1828, p. 371.) is on the same principle. To abolish the use of climbing boys, he advises an iron trap-door to be made in the flue as high *within the roof* as is possible. From this opening, a jointed pole and brush may sweep the upper part; and a brush carried down by a heavy ball to an assistant at the fire-place, the lower part. — *M. Saul. June 10. 1828.*

Genus Citrus, in answer to P. D. (Vol. III. p. 188.) — Sir, I take the earliest opportunity afforded me of answering, through the medium of your excellent publication, the questions put to me, in your last Number relating to the genus *Citrus*, by your correspondent, P. D. of Liverpool. The Sweet Shaddock, I have hitherto been inclined to believe to be the same as the Pompoleon, Pompoleone, Pompelmoso, variously so called. I am not, however, fully satisfied on this point, nor can I say *for certain* that:

they are one and the same plant. The difficulty that exists in ascertaining distinctly the varieties of the genus *Citrus* is very great. The same plants sent to the Italian warehouses from different countries bearing different names. Many varieties have been raised from seed even in this country, of which the Kitley Shaddock (Vol. I. p. 265.) is one. It is a sweet fruit, and well worthy of culture.

I have not yet had the good fortune to procure a plant of the Grape Fruit, or Cluster Pompoleon; I have met with small plants of it in some few private collections, but have never seen it in bearing.

Your correspondent will find it difficult, if possible, to procure by purchase plants of the Forbidden Fruit, Pompoleon, Sweet Lemon, Sweet Lime, and Kitley Shaddock. If scions of them, in February next, will be acceptable to him, I shall have great pleasure in presenting them to him; as a tribute of respect, I must be allowed to feel for a brother cultivator of this beautiful tribe of plants. He will, therefore, have the goodness to let me know, before that time arrives, in what manner he would wish to have them sent to him.

May I take the liberty to ask your correspondent, why he has not sent specimens of his Sour Shaddock, of the abundance of the fruit of which he so honourably boasts, to the exhibitions of the Horticultural Society, which, as he probably knows, are held at their house in Regent Street twice every month? Cultivators of rare fruits, at a distance from London, are improperly negligent on this point; for, however sensible of the abuses and errors of this Society I may be, I would yet have that attention paid to them that their good deeds in the way of promoting the science of gardening deserves. They, or rather we (for I am a member of that overgrown and fête-giving establishment), undoubtedly have great claims upon our assistance.

Does your correspondent know that a splendid work on the orange tribe has been published within the last few years, by M. A. Risso, of Nice, entitled *Histoire Naturelle des Oranges*, folio? Yours, &c. &c. — *An Amateur*, Woodstock, June 4. 1828.

Seedling Myrtles. — What is the quickest way of flowering seedling myrtles, of which I have got about thirty, eight of which are two years old, from seeds of the *M. latifolia*; the rest one year old, from the Devonshire myrtle? — *W. G. T.*

Gold and Silver Fish. — I should feel obliged if some one of your correspondents would favour me with some account of gold and silver fish, their time of spawning, breeding, &c.; where they may be purchased to stock a basin, and the price. As I understand from J. H. (p. 191.), that they breed fastest in warm water, I should wish to know how this may be given them; also the name of any author who has written on the subject of keeping and breeding them? — *A Constant Reader*. June 26. 1828.

Lamp for a Green-house (III. p. 365.) — In pages 42—53. of Dr. Anderson's *Description of a Patent Hot-house*, 12mo, 1803, is a proposal for heating a green-house by the argand or patent lamp. The method is by a tin tube conveying the cold air from the exterior to the air-tube of the lamp, and, when the lamp is put out, the external air-tube is to be stopped. He says that in a small house, 12 ft. long, a lamp raised the thermometer five degrees in a quarter of an hour. The question has before been put in your Magazine, but, not being answered, I have taken the liberty of saying where the intelligence can be got. — *Superficial*. Brixton Villa, January.

The Spot on Cucumbers, in answer to F. (p. 189.) — I beg to say that it is not caused by any insect, but entirely a consequence of cold, and too much moisture. Sufficient bottom-heat and dry warm air always prevent this disease; and, even after it appears, if the heat be renewed by linings, &c., its progress will be arrested. — *J. D. Parks*. Arran Lodge, Bognor, Sussex, June 12. 1828.

What is Forsyth's Composition made of? I have been in the habit of keeping some by me, for the purpose of covering any wounds of trees, and I thought it might also answer the purpose of grafting-clay. I used it; but, to my great mortification, it killed almost all my grafts: Having always been fortunate in grafting, I am certain the composition must have been the cause; and, on this account, am anxious to know what ingredient or quality, in a professedly *healing* mass, could produce such an effect. — *Id.*

What is the Disease that Celery is sometimes subject to, and which appears in ferruginous spots, spreading itself from place to place on the plant? Early celery is free from it, but it generally appears in September. One thing is remarkable: two years ago, all the plants raised here, those ridged out by myself, and those distributed to neighbours, were all spotted, while the plants raised by my neighbours were free. This is the first time my celery has been so deteriorated, though I may have seen the malady before. — *Id.*

How can Mildew be kept off Cucumber Plants? In the frames, I banish it by copious watering, and shutting down the lights for two or three hours immediately after; but this I cannot do on the ridges. Is there any remedy for this? — *Id.*

Vines in Peach-houses. — Sir, My employer wishes to have both grapes and peaches in one house, and I should feel greatly obliged if you, or any of your correspondents, would favour me with an opinion respecting this intention, whether a good crop of both can be depended on; as I consider the peaches should be exposed as soon as the fruit is over, at which season the vines require the lights on, to mature their wood and fruit. I have the management of two peach-houses, built in the old style, with rafters, 7 in. wide, and vines, mostly Black Hamburgh, trained under them, which always fail; and, in consequence of the peaches being shaded by them (although generally a good crop), their flavour is very inferior. — *D. B. May, 1828.*

A Fruit Wall. — Will you submit to the consideration of your practical readers what may be the best plan of construction for a fruit wall, 15 ft. in height, to be heated by hot water? — *P. L. May 12.*

Is there a Double white Hepática, and where can it be bought? — *R. S. E.*

Paradise Stock. — What is the original of the Paradise stock, upon which apples are grafted? — *Id.*

Digestibility of Carrots. — Is it true that the carrot is more difficult to digest than any other vegetable, and what is the cause of it? — *Id.*

Cooking Vegetables. — I should be glad to know the best treatise on cooking vegetables. — *Id.*

How to make Pines fruit. — I wish much to know the best mode, and as soon as may be convenient to you or your correspondents. — *A Constant Reader. May 15. 1828.*

Ants on Peach Trees. — Can you or any of your correspondents inform me of any remedy for the ants on peach trees? I am excessively troubled with them. My soil is a sandy loam, in which they seem to harbour so securely as to render extirpation impossible. — *A.*

ART. XII. Obituary.

DIED, on the 9th of June last, in the 59th year of his age, Mr. Charles Brown, upwards of thirty-four years foreman at Mr. Lee's Nursery, Hammersmith.

THE
GARDENER'S MAGAZINE,
OCTOBER, 1828.

PART I.
ORIGINAL CORRESPONDENCE.

ART. I. *Outlines of Horticultural Chemistry : — Vegetable Physiology.* By G. W. JOHNSON, Esq., of Great Totham, Essex.

(Continued from p. 207.)

I now proceed to consider those parts of plants which are apparent above ground. These consist of the stems, branches, leaves, flowers, and fruit.

Of the first two, it will be primarily necessary to sketch the anatomy. The *epidermis* is analogous to the human cuticle, or scarf-skin, being the external envelope of the whole surface. It is commonly transparent and smooth, sometimes hairy ; in other instances hard and rugged, occasionally so abounding with silica or flint, as to be employed as a polisher for wood and even brass. In every instance it is a network of fibres, the meshes of which are filled with a fine membrane. The epidermis appears to be designed as a preservative from the injurious effects of the atmosphere, to regulate the quantity of gaseous matter and moisture respired, and as a shield from the attacks of animals, &c. It is certainly devoid of sensation. The texture of the membrane within the meshes varies much in different species of plants. In very succulent plants, it is so contrived that it readily allows the absorption of moisture, but prevents perspiration. Such plants are, consequently, well qualified to inhabit hot climates and dry soils. Neither is it at all impossible that it possesses the quality of allowing the passage of some gases, and rejecting others, as the bladder of animals permits water to pass through its texture, but is impervious to alcohol. In old trees it cracks, and, in many

cases, becomes obliterated, the dead layers of bark performing its offices. Immediately beneath the epidermis occurs the *cellular integument* (otherwise known as *parenchyma* and *pulp*). It is a juicy substance, and, being the seat of colour, is analogous to the rete mucosum of man; which is red in the white, and black in the negro. The mass of apples, &c., is composed of it. Leaves are chiefly formed of a plate of it, enclosed by epidermis. In herbs, succulent plants, leaves, and fruits, if it is destroyed, like the epidermis of the same, it remains un-restored; but in the case of trees and shrubs, it is regenerated after each removal. In leaves it is generally green; in flowers and fruits, of every hue. It is always cellular, and evidently acts a part in the secretory system of plants.

Under the cellular integument occurs *the bark*, which, in annual plants, or branches of one year's growth, consists of a single layer, scarcely distinguishable from the wood; in older stems and branches, it is composed of as many layers as they are years of age. It is in the innermost of these, which is called the *liber*, that the vital returning circulation and secretions are carried on for the time being, almost exclusively. These layers are concentric, or, as they are usually termed, *cortical layers*; they are thicker in feeble plants than in more vigorous ones of the same species; they are formed of waving longitudinal fibres, the meshes of the network they thus constitute being filled with pulp. If the outer bark is destroyed, but the wound does not penetrate below the liber, the wound is healed up, otherwise the removed part is unregenerated. In some roots, though only annuals, the bark is composed entirely of liber, and is very thick, as in the carrot and parsnep, in which it is evidently separated, by a light-coloured annular mark, from the central or woody part. The liber is composed of various longitudinal tubes, in which the true sap of the individual descends after elaboration in the leaves; consequently, here are found the substances that are the peculiar products of each in the most concentrated state, as the resin of the fir, the bitter principle of the Cinchona, or Peruvian bark, &c. I will here pause, to remark upon some of the remedies which have been recommended for the removal of insects from the bark of trees. Oil has been directed to be smeared over them, for the destruction of the *Aphis lanígera*, moss, &c. Whether it will answer such purpose I will not stop to argue, but will content myself with observing that a more deleterious application is impossible: for, on the same principle that it destroys the parasites, namely, by closing their spiracles and pores, and thus suffocating them, it, in a like manner, clogs up the pores of the infected tree, and, in every instance, insures a weak and

unhealthy vegetation ; for it is not a transient remedy, that will cease in its effects as soon as it has attained the desired end. The oil dries, and, as it were, forms a varnish over the epidermis for years, unremoved by exposure to the atmosphere ; and this effect is more decidedly insured, by linseed oil being the kind recommended, it being one of the most unctuous and quick-drying of the oils. The most effectual, most salutary, and least disagreeable, is a remedy of trivial expense, and which a gardener need but try upon one individual to insure its adoption. It is, with a hard brush, dipped in a strong brine of common salt, as often as necessary, to insure each portion of the bark being moistened with it, to scrub the trunks and branches of his trees at least every second year. It most effectually destroys insects of all kinds, and moss ; and the stimulating influence of the application and friction is productive of the most beneficial effects. The expense is not so much as that of dressing the trunks with a solution of lime, which, however efficient in the destruction of moss, is not so in the removal of insects ; is highly injurious to the trees, by filling up the respiratory pores of the epidermis ; and is decidedly a promoter of canker. Let my remedy be brought by every orchardist to the test of experiment, *under his own eye*, that it may be effectually done, and he will not require me to theorise. Facts are stubborn opponents. If the fibres emitted by the ivy, by which they cling to other trees for support, do not aid it in obtaining nourishment, yet, by filling the respiratory pores, they are injurious, and, for other reasons, should never be allowed to cling around serviceable trees. The belief that ivy draws no sustenance to itself by the attaching fibres, I cannot, however, subscribe to. Attached to the officers' barracks at Winchester, is a very fine specimen of ivy ; its trunk has been severed off to a height of more than 2 ft. from the ground, yet it has for years continued a healthy vegetation. That the fibres have become real roots in the interstices of the wall, which is built of flints and mortar, I will not dispute ; but that is only confirmatory of my belief that the ivy gains nourishment by their means.

(*To be continued.*)

ART. II. *On the best Source at present open to Gardeners for the Acquirement of Scientific Instruction, and on the Propriety and Advantage of Mechanics' Institutions extending their Benefits towards them.* By P. MASEY, jun.

Sir,

I FEEL much gratified to see that several writers in the *Gardener's Magazine* evince a desire to ameliorate the condition of our gardeners, and raise them to that sphere among the operative class to which the superior attainments their profession requires entitle them.

To those who feel an interest in their welfare, and are anxious, by the cultivation of their minds, to enable them to cooperate in the advancement of botanical and horticultural science, the pages of the *Gardener's Magazine* afford the most efficient means of promoting such views, by those interested contributing a series of elementary essays on every branch of knowledge connected with the profession.

To those whose talent is apposite to such a task, I hope there need be no further appeal, than reminding them that, in contributing such aid to those who stand in need of it, they will be making the most grateful return in their power for those mental riches with which nature has endowed them.

Next to the advantages likely to be derived by gardeners from the perusal of their *Magazine*, if supported, as I trust it will be, by the talent of all who can contribute towards it, no measure can tend to promote their interest and welfare in a greater degree, than the establishment of mechanics' institutions; the principles of which are, to afford, at a comparatively trifling expense, schools for teaching reading, writing, arithmetic, algebra, geometry, and trigonometry, and their different applications, particularly to perspective, architecture, and mensuration; lectures on chemical, natural, and moral philosophy; and the great advantage of enabling members to peruse, at their fire-sides, the best standard works on every branch of science and useful knowledge.

The greater part of the directors of such institutions are elected from the mechanics; among which class, in particular, I have found some who consider a mechanics' institution not consonant with the pursuits of a gardener; consequently, the former do not feel that interest in the welfare of the latter which they ought. Such selfish and shortsighted views were not to be expected in such an institution; and, when they do exist, afford an evident proof of the predominance of party feeling over a love of science.

In endeavouring to counteract ideas so fallacious, I am obliged to observe that, in the pursuit of rural architecture and landscape-gardening, though not professionally, yet it has necessarily associated me with that class whose cause I advocate, sufficiently to warrant my asserting that none are likely to reap greater advantages from science than they are; that there is no class whose talents are rendered more serviceable to our wants and pleasures; and none the attention to whose interests is likely to lead to such beneficial results in one of the primary objects of mechanics' institutions; inasmuch as the objects professed to be in view are, not only to raise a class of scientific mechanics, whose superior skill shall tend to uphold the superiority of our manufactures, but to render them, not only more useful, but better, members of society, by improving their moral condition.

The means of producing the first object is by instructing them in the principles of the arts they practise, and chemical philosophy; and the second is to be effected by natural and moral philosophy. If such are the views of the promoters of mechanics' institutions, and they rely on the two latter sources to make them more worthy members of society, then I contend they paralyse the intention, if they do not afford every possible encouragement that can lead to the study of nature. And where can she be studied by every class of society so profitably as in the vegetable kingdom? Where else has she spread such treasures to the contemplative mind, or afforded a more plentiful harvest for the talent and industry of mankind? It is there science affords the greatest insight into the economy of nature, and enables us to discover the beautiful order and simplicity with which all her works are contrived and regulated; it is there man becomes sensible of the generous hand of Providence in the provision made, not only for his bodily wants, but his mental desires.

As the study of nature is calculated to produce results so conducive to morals and happiness, and as natural and chemical philosophy are so intimately connected, it follows that the interests of the gardener and mechanic in such institutions are reciprocal; that such arrangements as are necessary to extend their benefits to the former, may be attended with the highest moral advantages to the latter.

I therefore trust that a due consideration of this subject will have the effect of drawing the attention of the directors of such institutions to the gardeners' interests, and induce them to afford to that class every facility in the attainment of knowledge suited to their profession; particularly by adding

to their libraries of reference and circulation such standard and elementary works as they require to be acquainted with.

I am, Sir, &c.

Bristol, Nov. 30. 1826.

P. MASEY, Jun.

ART. III. *On preserving and increasing Collections of Plants.*
By PHILO-BOTANICUS.

Sir,

I WAS lately much struck at hearing a neighbour of mine, a man of small fortune like myself, but, like myself, very fond of plants, state the sum which he devoted annually to the purchase of what his gardener considered desirable additions to his collection. My surprise was not at the largeness of the sum, for that was only 10*l.*, but at the limited number of plants in his collection, considering that he had pursued this practice for upwards of twenty-five years. I do not think that my gardener has laid out 10*l.* during that period, and yet I have very nearly as extensive a collection, and certainly as many good plants, though not so many rare ones, as my neighbour. Some time afterwards, I happened to mention this to one of our principal nurserymen here, who told me that the case was not at all uncommon, and that in the best gardens, and under the best management, a number of plants died annually, and that in this case as in every other, the end in view was not likely to be attained unless it was set about systematically, and persevered in assiduously. With great judgment and liberality, he observed that though it was a common notion among nurserymen, that the more plants that died so much the better for the trade, yet that he was convinced it would be still better for the trade if no plants died, because collections would insensibly be formed in every place where a gardener was kept; the taste for plants would become of a more elevated character; every gentleman would be ambitious of having a collection; and, of course, the commerce in plants greatly increased. He said he knew only one gardener in England who acted on this principle; and this man, he stated, having about 200*l.* a year at his disposal, and being a good propagator, would soon form for his employer one of the best private collections of hardy plants in the country. I have not liberty to give his name, but I think a short statement of his practice might, in your hands, conduce not a little to the advancement of an art, in which so many of us find

our chief source of recreation and amusement, when in the country.

I have mentioned that 200*l.* a year is the sum allowed for purchasing new plants. In order that the collection may be increased by such outlay, Mr. — makes it a rule in purchasing, to order a duplicate of plants of difficult or doubtful propagation, but having once purchased any species or variety, never on any account to purchase it a second time. If the species purchased should become lost, he makes it a rule to beg it from some brother gardener, to make an exchange for it, or, if it cannot be got otherwise, to purchase it out of his own pocket, as a sort of penance for having lost it. My friend, the nurseryman, says, he would recommend this practice to all gardeners, and to some gentlemen, who, being their own master-gardeners, purchase all their plants themselves, and absolutely expend more in keeping up a collection, than would procure all the first articles of novelty. Purchasing to supply what has been lost, he added, is like pouring water into a leaky vessel; purchasing in Mr. —'s manner is a positive acquisition of riches. He would recommend all proprietors to keep two copies of interleaved plant catalogues, and to have a mark put against every plant purchased, the master keeping one copy of the catalogue himself, and depositing the other in his garden library. The gardener ought to be required to undertake, like Mr. —, to make good all deaths which arise from neglect of management or propagation, always excluding deaths of large plants, which, in many cases, are unavoidable or unaccountable. Of course, such a gardener must, like Mr. —, be an enlightened man, well paid, well supplied with all that is necessary for carrying on a garden, and well treated by his employer. Were the imitation of the practice of this excellent gardener insisted on by every gentleman who lays out money in purchasing new plants, I am persuaded our country collections would soon be in a very different state from what they are in at present. Gardeners and nurserymen, even on the principle of self-interest, ought to unite with you in endeavouring to effect this, since, whatever increases the value of a garden, increases the value of a gardener.

I am, Sir, &c.

PHILO-BOTANICUS.

Bristol, June, 1828.

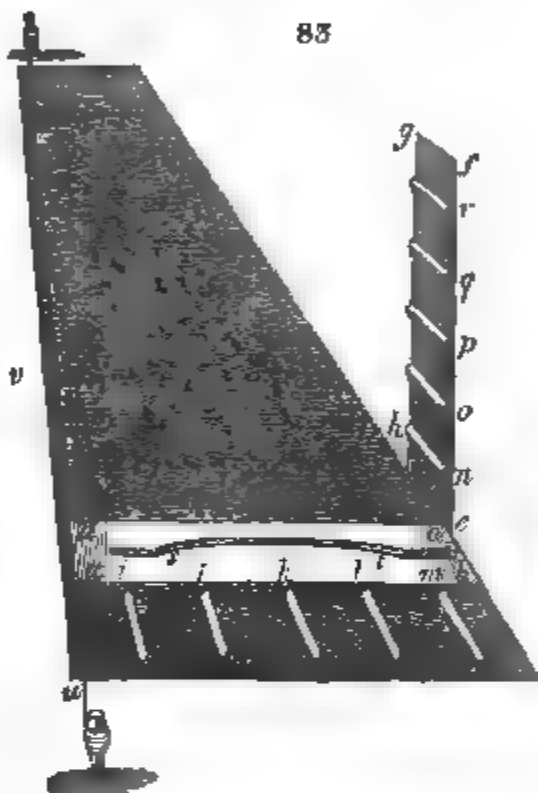
ART. IV. Description of a Machine for the Sowing of Plants in Rows, with a Word or Two on French Transplanting. By S. X. P.

Sir,

As some of your correspondents recommend the sowing and planting of vegetables in rows, I am induced to send you a drawing of a pair of boards, which I have used for many years with much success. They consist of two half-inch deals, 4 ft. long, and 1 ft. wide. (*fig. 83.*)

Across the two boards (*a b c d, e f g h*) are fastened triangular pieces of oak, 1 in. deep, by 1½ in. wide (*i j k l m n o p q r*). The two first (*i n*) are placed 6 in. from their ends, and the other pieces 9 in. apart, which will place the two last (*m, r*) 6 in. from the other ends of the boards; each board has a leather strap (*s t*), 3 ft. long, by 1 in. wide, nailed 6 in. from the ends, to raise it up by, when lying upon the bed.

The boards are used in the following manner. Prepare a bed of 4 ft. wide, place the garden line so that it may hang lengthwise over the edge of one side of it (*u v*); place the boards close together, so as to cover the end of the bed, leaving the ends of them almost to touch the line; stand upon the two, that they may be pressed down equally. Afterwards stand upon the second board, and remove the first quite close behind the second, and press that down. Then sow the seeds into the five little grooves in the bed (*w w w w w*), made by the first board; afterwards remove the second board behind, and repeat the same operation as before, until the bed is sown. Then finish the whole by raking a little soil over the seeds. In the drawing, one of the boards (*e f g h*) is raised up to show the under side, and also the five triangular cross pieces. The boards must not be thicker than half an inch, otherwise they become too heavy; and the cross pieces must be put on very exact as to distances, otherwise they will not form straight lines down the bed.



Many advantages arise in using the boards: every seed will be equally buried; besides, each line may contain a separate sort of seed, without the plants being mixed, although in so small a space. The first, third, and fifth rows may be sown with carrots, turnips, onions, &c. &c., when the second and fourth may be sown with radishes, lettuces, cabbages, &c.; or any seeds that the plants thereof are to be removed, when those of the other rows are advanced in growth. Onions, I find, do extremely well in rows of 9 in. apart, and they are benefited by being earthed up a little, which cannot be done so well when sown broad-cast. The weeding of a bed thus sown will be trifling; for a Dutch hoe will cut up all the weeds between the rows, leaving the hand only one inch out of nine to weed. Besides this, the boards are very convenient to transplant with; for the distances of the drills may be a guide for five rows of plants, and the breadth of the boards either for one or two plants to the foot in such rows; or they may be planted in the first, third, and fifth rows, which will leave them a distance of 18 in. apart.

Being on the subject of transplanting, permit me to recommend the system adopted by the Paris gardeners, during dry weather; they do not wait for rain, as ours generally do; but, as soon as their crops require removing, it is done in the following manner:—Having chosen the spot, they well water the top, and immediately dig it under, and afterwards water the fresh surface, and as soon as it is dry enough it is raked, and the plants put in without any regard to the mid-day sun; they continue to water the bed three or four times a day, until the plants have taken root. It is surprising how soon lettuces, cabbages, &c., will be well rooted by such treatment, and with what vigour they grow after the first shower of rain. What would have been the state of such plants had they remained in the seed bed? They would have drawn each other; their first leaves would have dropped off, and a general debility would have followed, not easy to be removed: but, by the French treatment, not a leaf will be lost. Now, if we consider the principle, it is simply this: that every plant placed in the sun in water will in no way flag, and the continued wet state of the bed for the first few days is similar to it; besides, the presence of the sun contributes powerfully to the rooting of the plants.

I remain, Sir, &c.

S. X. P.

Bath, February 6. 1828.

ART. V. *A Method of destroying the Red Spider in Hot-houses, &c.* By Mr. WILLIAM REDDING, Gardener to Mrs. Marryat, Wimbledon House, Surrey.

Sir,

ALLOW me to lay before my brother gardeners my method of destroying the red spider in vineries, hot-houses, and peach-houses; a method I have practised for these ten years with the greatest success. I take half a pound of flower of sulphur, kill it with a little milk, add half a peck of hot lime and two small balls of whiting, and mix it well with water, until it attains the thickness of whitewash, when it is fit for use. I then with a brush wash the flues and every part of the house, which is of brick, with this mixture. My general practice is to wash the houses with this mixture in the month of February or March; but, should they require a second washing, which is seldom the case, they may be done at any time when the fires are on, with the greatest safety, only using it sparingly for 5 or 6 ft. from the furnaces.

I am, Sir, &c.

W. REDDING.

Wimbledon, August 19. 1828.

ART. VI. *On heating Hot-houses by Steam, through the Medium of Stone.* By the Rev. JAMES ARMITAGE RHODES.

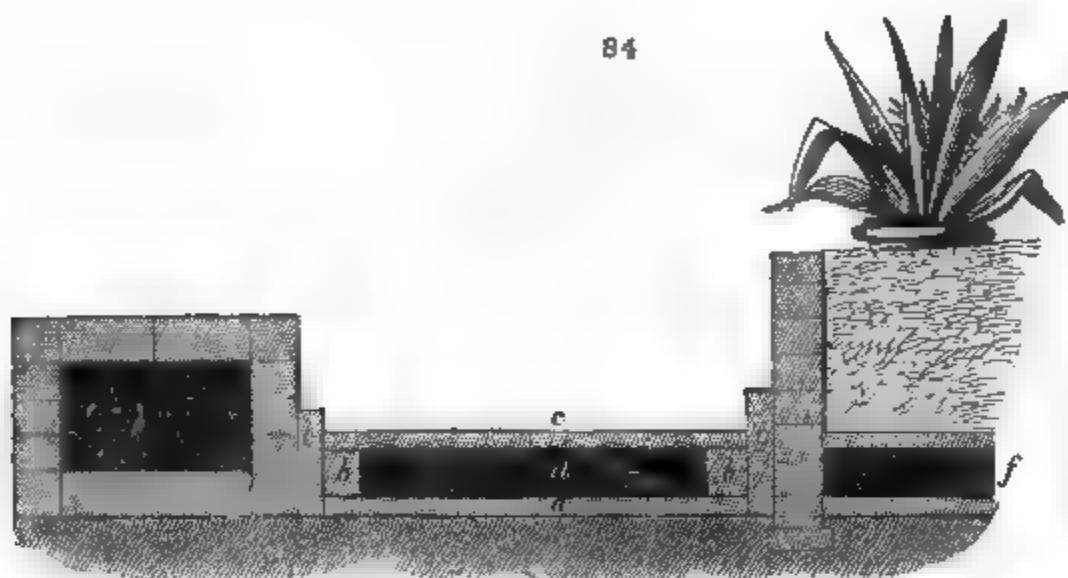
Sir,

I WILL now endeavour to fulfil the promise I made you of describing the mode in which my hot-houses are heated, and I beg to be understood to say no more than that it is *a good plan*. I do not compare it with the new mode of heating by hot water, because I have only lately seen that plan carried into effect, although the principle of it has long been quite familiar to me, as it was discovered in 1794, and published by Count Rumford in his *Essay on the Propagation of Heat in Fluids*. (Essay vii.)

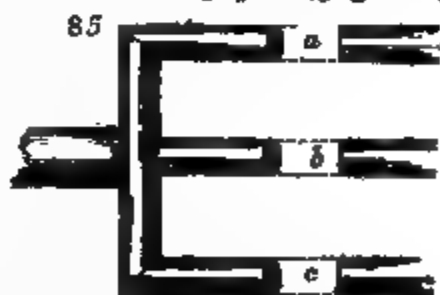
Eight years ago the hot-houses here had become old, and the flues were so defective, that we suffered much injury by the escape of smoke from them. I examined the mode of heating by steam in the neighbourhood of London, and also in other places; but I thought it very imperfect, on account of the employment of metal pipes. Metal transmits heat so rapidly, that it is an unfit medium for its conveyance. After an experience of eight years, I can confidently affirm that stone is greatly preferable; and although the mode in which it is employed here may admit of improvement, yet it

was the best that circumstances allowed, as it was superinduced on the old plan, without interfering with it. I should add that, from the time of its adoption to this hour, the fires have never been lighted.

In order to heat my hot-houses on this plan, I had the foot-paths taken up; flag-stones (*fig. 84. a*) were laid below;



upon them, on each side, was placed a line of bricks (*b b*); upon these bricks were laid other flag-stones (*c*); and the steam is admitted in the space between (*d*). In order to render the work firmer, it is desirable to have upright stones (*e e*) against the sides of the flue, which prevent any shrinking in the brickwork. The old fire flue (*f*) is remaining beside the new one, in case the steam should not answer. The dimensions vary a little, according to the breadth of the walks round; but the steam introduced at the bottom is allowed to run thence round the house. The only inconvenience I experienced in this plan was, that the steam, being introduced all in one place, rushed forward with great force there, and heated the house to a violent degree, but did not diffuse itself with sufficient equality over the whole of the front walk. I therefore got some gas-pipes in short pieces, made to screw together: these were connected to the main pipe. (*fig 85.*) Into the openings (*a b c*) the gas-pipes were screwed. One of these pipes was a quarter of the length of the front walk, the second was half, and the third three fourths of the length. The steam was thus delivered at these respective distances, and the flue under the walk was equally heated. It is further to be observed, that the bottom of the tan-bed (*fig. 84. f*) is also hollow, and that steam can be admitted underneath when



requisite, as in cases when the tan is deficient in heat, and the season not admitting its renewal. This I first saw exemplified in a cucumber bed belonging to Mr. Howgate, of Leeds, and it was the foundation of the plan I then adopted.

I have three pine stoves thus heated, one 60 ft. long, one 30 ft., and one 33 ft. The boiler is 10 ft. long, by 4 ft. wide; it is fitted up with a wheel draft, and has double doors, and registers in the ash-pit door. The heat continues regular throughout the nights, though no attention is paid to the fire after nine o'clock in the evening, except in very extreme cases of severe cold or very high wind. In order to prevent the escape of steam, the flag-stones are halved and overlaid at the joints (*fig. 86.*), and cemented together. They scarcely ever require repair; and, even if they were united in the ordinary way, the cement would render them quite tight.

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After eight years' trial, I am perfectly satisfied with the plan; and though the warm water system has the advantage, that heat begins to circulate as soon as it is generated, whereas in this mode we have no heat till we have steam, yet I do not feel disposed to alter the system. I do not undertake to recommend it to others whilst I describe it to you.

The pines and grapes are in the highest health, as is best proved by the number of prizes my man gets for them at the exhibitions of the Yorkshire Horticultural Society; a circumstance to which I would not have adverted, were it not necessary, in order to prove that the plan answers.

I am, Sir, &c.

JAMES ARMITAGE RHODES.

Horsforth Hall, Leeds, May 30.

ART. VII. *On Landscape-Gardening, as a Part of the Study and Business of Practical Gardeners.* By a LANDSCAPE-GARDENER.

Sir,

VERY few practical gardeners have signalised themselves as designers of garden or park scenery. The reason seems to be, that, within the usual bounds of a gardener's exertion, all is order and regularity: his habitual attention to right lines and regular curves, creates a love of mechanical precision; his business being to tame and correct Nature, he loses within his own limits the perception of admiring her flowing freedom; confined to the precincts of his kitchen, fruit, and flower

garden, it is but seldom that his care or attention extends farther than the ha-ha. Hence it is, that, being accidentally and oftentimes voluntarily confined to his own, perhaps narrow, field of action, from neglect in making himself acquainted with the principles of taste as laid down in the writings of Longinus, Burke, Walpole, Price, Addison, &c., he has unwittingly slumbered at his post; his natural genius, whatever its value, has been a talent buried in the earth, left unproductive, unexpanded, by never being brought into action, further, perhaps, than arranging the beds of a flower-plot.

Brown, it is true, was an exception; and he, it appears, was, from his situation as royal gardener at Hampton Court, thrust forward into the business of ground-work, more from the invitations and persuasion of friends, and the change of style in his time, than for any very superior ability which he possessed over the generality of his brethren of the like class in those days: and, though but few have trodden in his steps, and been attended by the great good fortune which he deservedly enjoyed, yet, doubtless, many since his time, as now, possess as fine taste and as much practical tact as would enable them to do creditably whatever they might be called on to execute, and especially on the estates where they reside. Such men, however, remain unknown only because they are unacquainted with the language of the picture-gallery, or, perhaps, have shown no fruits of either their pencil or their pen. This is probably as great a loss to their employers as to themselves. Their diffidence and unassuming manners succumb to the agency of a stranger who retails ready-made taste, and who, perhaps, will have the credit of executing what has suggested itself to, or been pointed out by, the gardener a hundred times before.

It is perfectly true, that a sufficient knowledge of what is commonly called fine taste, as it has been defined by poets, painters, and other artists, is absolutely necessary to be acquired by those who may wish to excel in the art of forming real landscape. Such knowledge is within reach of every gardener. Your own, and other contemporary works on the subject, leave no excuse for ignorance; but, as many of your readers may not have had the advantage of seeing such books, I judge that a few plain practical papers (in addition to what other correspondents may contribute) on this part of the gardener's business, may neither be unsuitable for your Magazine, nor unacceptable to your young readers. I shall, therefore, as leisure allows, forward to you an outline, which I shall leave for abler hands to fill up.

In commencing what I have thus proposed to myself, it may appear necessary, in the first place, to define what the objects of landscape-gardening are, and what its component parts. This, however, would lead to definitions of what are objects of utility, and what are conducive only to personal interest or comfort, or merely visual gratification. The shorter way, and what will lead to the same result, will be to present a view of the different features which diversify the face of the earth; and, by marking the various effects which they impose on the condition and necessities of man, and the manifold impressions which they fix on his mind, discover whence arises the value of such an art, and all those delightful feelings springing out of it, which constitute fine taste.

The surface of the earth is varied by mountains, plains, valleys, rivers, woods, rocks and lakes, meads and rivulets, and the whole begirt by a mighty ocean. These are either magnificent for their immensity, pleasing for their variety, attractive for their beauty, dreary for their barrenness, or terrific for their savage deformity. Combinations of these, where the hill rose to shelter, the wood to adorn, the stream to refresh, and the fertile soil to supply, soon became the abode, and were enlivened by the dwellings, of man. Hence various scenes were chosen for the various purposes of social life. Out of private or social wants arose predilections for particular spots on the extended lap of Nature. The shepherd sought the verdant mead; the planter the mild and sheltered vale; the merchant the safe haven; fear built its retreat on the towering rock, or behind some natural rampart built the crowded town.

When civilisation had advanced; when security, convenience, or climate had given a value to places which were called *home*; then commenced the arts of peace.

(*To be continued.*)

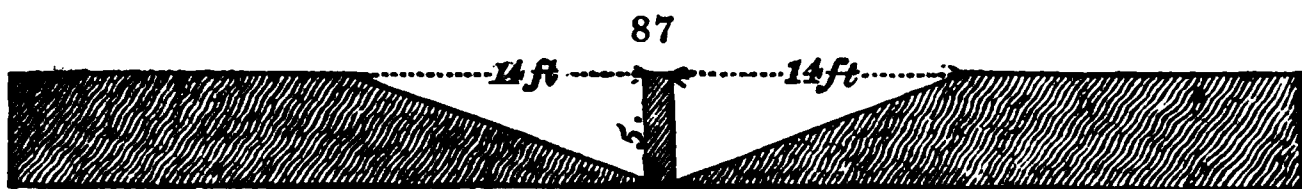
ART. VIII. *Description of a Double Sunk Fence in Garbally, the Demesne and principal Residence of Earl Clancarty.* By Mr. JAMES FRASER.

Sir,

ON looking over the article "Fences" in your *Encyclopædia of Agriculture*, it occurred to me that I had lately seen a form of sunk fence in Garbally, not noticed by you in the above work. Should you, therefore, deem the following description of it, and observations thereon, worthy of a place in your Magazine, they are very much at your service.

Garbally adjoins the town of Ballinasloe, one of the most clean and comfortable of the minor towns in Ireland, forming also a part of the family estate; and His Lordship, with his accustomed liberality, throws open the principal parks of the demesne for the exhibition and sale of the sheep driven to the great annual fair of this town. The spacious mansion of Garbally is just finished, and the dressed grounds around it are in progress. The fence under consideration was formed to protect these grounds from the depredations of cattle grazing in the adjacent parks, as also from the vast concourse of the fair. As stated in the heading of this article, it is simply a double sunk fence, and of the following form and dimensions.

The centre wall (*fig. 87.*) is 1 ft. 8 in. in thickness, coped with two sods reversed, that is, laid on roots to roots, by which



means the upper sod grows better than if laid on the bare wall. It is raised so high as to present to the eye, at a little distance, an unbroken continuity of surface. I need scarcely add, that this fence forms an effectual and unobtrusive barrier, and, in my humble opinion, is well calculated for many situations in the park and demesne, when the subsoil easily admits of excavation. The expense is, no doubt, considerably greater than that of the common ha-ha; but in extreme cases, such as the situation at Garbally, that will form no objection.

The sunk fence in question might be improved, by sloping the sides a little more. They now form with the wall an angle of about 65° ; but, if they were sloped so as to produce an angle of 75° , they could be grazed to much more advantage; and, what is of more moment in wet weather, the surface would be less liable to be injured by cattle. To obviate the exposure of the wall, the ground might be gradually raised towards the edge of the sides. (*fig 88.*)



As the formation of sunk fences constitutes no inconsiderable part of the gardener's business, a few observations on their construction in places difficult of excavation, may not be considered as an irrelative sequel to this paper.

In the course of my practice, it has more than once happened that the line of sunk fence lay over a continued mass of rock, so near the surface, as to render the excavation difficult, and, consequently, expensive. In which case, I have substi-

tuted, with tolerably good effect, the medium sunk fence of your *Encyclopædia of Agriculture*, fig. 380., with this difference, that, as soon as the wall was raised to the height of the original surface, I finished it with earth sloped off (*fig. 89.*), and faced the sloping part with sods, laid on as they grew, which looks better than when they are placed atop of each other.



The opposite, or sloping side of the fence, ought to form as great an angle as is consistent with the concealment of the wall, for the reasons already adduced. Should the fence be near the house, or any other particular place whence it may be easily seen, and if the ground falls from the front of it, the surface may be gradually raised towards the edge, as already hinted, so as to produce the desired effect. In more distant scenes, and where the rock is near the surface, a low hedge of thorn or holly, on the top of the wall, is admissible, if necessary; and, in the demesne or park, looks better than the common ditch and hedge. A cheap and permanent grass-green colour, mixed in the mortar with which walls of sunk fences, &c., are, or at least ought to be, rough cast, would, in my humble estimation, be no inconsiderable improvement in the minutiae of rural ornament.

Trusting that you will excuse the unconnected manner in which these remarks are brought forward,

I remain, Sir, yours, very sincerely,

JAMES FRASER.

ART. IX. *Remarks on Sir Henry Steuart's Planter's Guide.*

By MR. SINCLAIR, F.L.S. H.S., of New Cross.

Sir,

HAVING perused, with much pleasure and satisfaction, Sir Henry Steuart's *Planter's Guide*, I venture to offer a few observations on the interesting subject of which it treats. This I purposed to have done shortly after the appearance of the work, but my avocations have not allowed me leisure until now; in the mean time, the able reviews of the work in your last Number, and elsewhere, have left me little on which to remark. The discovery that forest trees of large growth may be transplanted without mutilation, and with safety as to future growth, needs only be named to be fully valued and appre-

ciated by all who are interested in forest tree planting, particularly in the immediate attainment of the effect of trees of large growth. To the artist in landscape-gardening, the discovery is of great importance; but its value in this point of view has been so amply detailed and discussed in the papers above alluded to, that I need not farther dwell upon it here.

In all the notices of the *Planter's Guide* which I have perused, there appears to me to be one interesting and valuable feature of it too slightly noticed; I mean the happy union of sound physiological knowledge with practical experience, which Sir Henry Steuart displays in his work.

To combine science with practice, or to show the dependence which these have on each other, by facts clear and decisive, obtained from daily practice, and which may be demonstrated by repeating the same practice or processes of culture, is an object of great importance, and difficult to arrive at, because it requires many years' assiduous attention, observation, and unwearied labour.

The advantages resulting from the union of scientific knowledge and practical experience are great; the former is as the lamp in the dark, showing us where to place our steps in safety, what to avoid and what to take; leading us in the direct path without loss of time, and without experiencing disappointment, to the object we desire to attain.

The physiology of plants, or the knowledge of the structure and of the vital functions of vegetables, also a knowledge of the nature or properties of the different soils which influence the growth of different species, and that of distinguishing the different species and varieties of plants which affect different kinds of soils, are not only necessary but essential to the agriculturist who would exercise all the different branches of the art with the greatest success, or at the least cost of time, money, and mental and bodily labour.

This knowledge also enables the possessor of it to communicate an account of the results of his successful practice and processes of culture, in language or expressions not easily to be misunderstood, and free from those doubts or ambiguities which often characterise otherwise valuable communications on agricultural subjects, where empirical practice only has guided. I may be permitted farther to observe, that practice is the foundation of science, and that, till of late, these have been too much kept apart; we have, in most instances, either all science or all practice. Hence the unwillingness of most practical men to receive information from reading, or what is termed book-learning; and it must be allowed so far in their favour, that scientific or physiological knowledge, without a due corrective

of practical experience, and that not of a superficial nature, is exceedingly apt to lead to the opposite extreme from the statements of empirical practice, or renders to the understanding of the practical man what might otherwise be most useful and valuable information, mere fanciful speculation. It has therefore followed, that the mere practical man's details have been received with great caution by the physiologist; because he knows that there is a probability that the effects may have been mistaken for the cause, or *vice versa*, in detailing the practice or processes which may have produced results beneficial or otherwise in the growth of crops, working of the land, manures, species or varieties of plants, kind of soil, climate, or with regard to any agent that influences vegetation and fructification.

The principle of Sir Henry Steuart's method of transplanting forest trees of large growth, may be stated in a few words: — Take up the tree with all its roots and fibres, and its external system of branches and leaves, entire and unbroken; then transplant these roots, fibres, and external system of the tree, in the same perfect state.

The precautions which accompany the details of the manual processes of transplanting are valuable, and could only have been dictated by great practical experience. These processes are such as every skilful gardener or planter would employ in the transplantation of large evergreens and fruit trees, differing only in the superior magnitude of the subjects and operations. The directions for the preparation of the soil previously to planting the tree in its new site, is another point of consequence, as being warranted by experience. The minute instructions for the careful distribution of the roots and fibres in planting, so as to maintain the tree upright in its new position, without the necessity of having recourse to a violent or unnatural consolidation of the earth at first, or to other artificial modes of support, are also clear and satisfactory. The after-management, as keeping the soil in a due degree of moisture, progressive consolidation, &c., is also to be carefully attended to, to insure success. But the most important precaution to be observed, so as to crown any attempt with success, rests on the judicious selection of the subjects, or trees, to be transplanted. Sir Henry Steuart observes that in this consists the most difficult part of transplanting trees of large growth. This point, doubtless, requires a very considerable portion of practical knowledge of the natural habits of different kinds of trees; and, at least, to have witnessed, in numerous instances, the state of the roots of different species of trees in different kinds of soils. It is stated as a rule, that the

success of the planter, in this particular branch of the art, will be in the actual proportion in which his subjects possess the following four protecting properties:— 1. thickness and induration of bark; 2. stoutness and girth of stem; 3. numerousness of roots and fibres; and 4. extent, balance, and closeness of branches. In the still imperfect knowledge of vegetable physiology, it is not to be thought surprising that the justness of some of the opinions brought forward of the theory of the effects of these protecting properties should be questioned; but, for the important purposes of practice, the conclusions are correct, and serve as a beacon to warn off rashness and overhaste from the operations. There is one point, however, which, with every deference, I now refer to; it occurs at page 151., where it is stated that “size offers to successful removal no actual impediment, farther than increased expenditure.” I venture to state, that every species of vegetable, from the plant of grass whose natural period of life extends only to six months, to that of the oak which extends to as many hundreds of years, has a peculiar length of life, in which distinct periods are marked, from the seedling state to that of fructification or perfect maturity, and from that again to decay and death; and, also, that the reproductive power of vegetable life declines in proportion to the advance of age, after the period of full maturity; and that, though size may not greatly impede successful transplantation (if every part of the process is executed as well as in the case of a moderately sized tree), yet I submit that *age* must have a very great influence indeed; although, no doubt, we must wait until practice afford facts to point out the degree of influence which different periods of age exercise over the successful transplantation of trees of large growth. I may be permitted to add, that a two or three years old oak tree may be deprived of nearly all its roots, and be transplanted, and, with ordinary care, will grow and flourish; but the same tree, twenty years older, would perish inevitably under that deprivation. Again, the vital reproductive power is much stronger in some species of plants than in others; in this respect the difference is great between the willow and the pine, or fir. The former, even when aged, will, if deprived of a limb, or of the trunk itself, reproduce others; but the latter will not reproduce a branch, even when young, and, at a more advanced age, will perish, if the trunk be divided below the branches. This reproductive power of vegetable life varying so much in the same individual plant at different stages of growth, and also in the different genera, and even, frequently, in the different species of the same genus, influences the practice of planting with regard to

young trees or plants, and trees more advanced in growth. Experience has proved it to be perfectly proper to reduce the roots and branches of young plants according to expediency; as, when judiciously performed according to the species of plant and kind of soil to be planted, the form and immediate growth of the young plant are improved by that treatment: but, for trees of large growth, in which the reproductive vital power is diminished, it is only to quote Sir Henry Steuart's principles and practice of the art, to show the ruinous consequences of lessening a single fibre or the bud of a leaf in the process of transplanting.

It is justly remarked, at p. 144., that "a certain portion of heat, that is, of shelter, is very indispensable to trees during infancy, in order that, when their organs are matured and their strength established, they may withstand the effects of a cold, bleak exposure. Hence, to set them out prematurely, is, to a certainty, to paralyse their energies, and check the developement of their parts." This is a most correct view of an important part of the planter's art, and leads to a correction, generally, of that erroneous idea, that poor soils should be supplied with plants from beds of poor soil. That plants with large, or full, healthy, vigorous sap-vessels, are better fitted to resist the bad effects of a poor soil and unfavourable exposure for the first years of transplanted growth, than a plant from a poor soil, with narrow contracted sap-vessels, or of sickly stunted structure, the invariable consequence of a poor soil and exposure to plants in their first stage of growth, has been so fully proved by experience, as to be now no matter of doubt by those who have made trial of the two modes.

The suggestions, at p. 355. et seq., for the formation of an arboricultural society are highly interesting; and there can be no doubt of the beneficial effects that would result from the labours of such a society, if properly constituted.

In conclusion, I beg to observe that the good taste of the spirited proprietor of Hartham Park, H. H. Joy, Esq., has induced him to ornament a new addition to his park by the immediate effect of wood, according to Sir Henry Steuart's system, so as to make it correspond with the old park, which is distinguished by fine groups and single trees, and, as he has honoured me with the commission of carrying his views on this point into execution, I may probably have the pleasure to revert again to the subject, particularly with regard to the success of the practice in that part of England.

I am, Sir, &c.

New Cross Nurseries, June, 1828.

G. SINCLAIR.

ART. X. *Notices respecting the Irish Yew, Irish Furze, and Irish Broom.* By Mr. JOHN HERVEY, Nurseryman, Comber.

Sir,

It does not appear that the tree broom is a native of Ireland; it is not common any where. I have never met with it but at the seat of C. Greg, Esq., near Belfast, and there only a single tree, from which I got some seeds. The Irish yew is no doubt a native; it is plentiful in the neighbourhood of Antrim, where there are specimens at least a century old. Young plants are, however, scarce, it producing no seeds, and the owners of fine trees are averse from having them disfigured by giving cuttings; neither does it succeed well by cuttings, unless nursed under glass for a year or two. The *Ulex europæus* var. *strictus*, I suppose, must be a native of this country, although I never saw it but at Mount Stewart, the seat of the Marquess of Londonderry. Some very large plants appear in the shrubberies, though the oldest labourers on the spot have no knowledge whence it came. No one can tell more of these plants than my friend Mr. Frazer, of Loughrea, and whatever he may be induced to offer respecting them, or, indeed, on any subject, I am sure will be highly acceptable to all your readers in this part of the world.

I am, Sir, &c.

Comber, May, 1828.

JOHN HERVEY.

ART. XI. *On the Culture of Amaryllideæ.*

By a BLOOMING BULB.

Sir,

THE treatment of the *Amaryllideæ* seems to be one of increasing interest, which that most magnificent family of bulbs no doubt is fully entitled to. In your last Magazine I read with pleasure some observations of M. Faldermann, botanic gardener to the Emperor of Russia, relative to the *Amaryllis vittata*, which he was induced to make for the edification of your correspondent, Mr. Groom, who knew of a plant which remained sixteen years without blooming. These, although excellent in themselves, do not exactly apply to our climate, where it is an inhabitant of the green-house, and will live in a very low temperature. *Amaryllis vittata*, or, more properly speaking, *Hippeastrum vittatum* of the Hon. W. Herbert, like every other bulb, whether hardy or

otherwise, requires a period of rest. Our snowdrop, crocus, narcissus, and lily mark out this law of Nature, which, out of doors, she very kindly performs for us: but as in the stove and green-house we rule the elements, so do we too often subject our plants to the most capricious treatment, the stimuli of heat and water being always at hand. Hence we can account for such queries as Mr. Groom's, and, indeed, for M. Faldermann's own observation, where he says he saw it so seldom well in flower during some years' residence in this country. *Hippeástrum vittatum* is, in fact, one of the fastest-growing and freest-flowering bulbs of the genus. Sow the seed when ripe, and place the pots in the stove or hot-bed; the latter to be preferred if at work. The soil for this should be any light sandy compost; the pots to be plunged in the tan; prick out the young bulbs when they have made two entire leaves, with the appearance of a third advancing, and put them into small pots, with plenty of drainage and broken potsherds, which the roots are fond of running through. The soil for this should be two thirds of any rich light sandy compost, of which horse-dung is the principal ingredient, and one third turfy loam, chopped fine, but not riddled. Plunge them again in tan, and keep up the stimulus of heat; water them very cautiously and gently, until the leaf begins to start, when the quantity may be again increased. The bulbs will now grow fast, and, in the course of five or six weeks, may be again potted into the next size larger pots, and then treated as before. This frequent potting encourages the growth of the fibres, and adds most surprisingly to the size of the bulbs. We know how this stimulus acts with respect to balsams and other plants, and it is just as decided here. Continue the potting as the bulbs increase, and keep up the stimuli of heat and water. Should any, however, appear sickly, and their foliage turn yellow, abstain from watering altogether; and, being removed to a perfectly dry place, they will soon go to rest. It does not follow, as M. Faldermann says, that the bulbs will lose their leaves in the autumn; neither need any *Amaryllis*, of whatever age, until it has arrived at maturity.

They should be now removed to the green-house, and receive a diminished quantity of water; for, although the plants have leaves, *they are to a certain degree at rest*, when excitement of any sort is dangerous. Towards November, or, in some cases, earlier or later, a fresh leaf will begin to show itself, when they are to be repotted, and only gently forced, as at this season we have not light to afford a vigorous foliage. In February, however, or sooner, the former process of hot-bed management may be resumed. Urge them on as far as

possible with heat, water, and frequent potting, adding more of the turfy loam as the bulbs grow stronger; and in the autumn they will have grown as large as a moderate-sized polyanthus narcissus. The leaves of several of the plants will now begin to turn yellow, which is the signal for diminished stimulants of all sorts; and, being shortly after denied water altogether, the foliage will gradually disappear. The bulbs may then be turned out of their pots, and kept perfectly dry, until the point of a leaf shows itself, when they are to be repotted in a compost one half at least of turfy loam, chopped moderately fine, and the other half as before. Place them in the green-house, or in the stove if you want to force them, without water, until they grow, and the flower scape will soon make its appearance, although, of course, not so vigorous as in older plants. Others of the bulbs, which in the autumn seemed disposed to retain their leaves, should be treated as in the first year's growth; and the succeeding season they will grow to a very large size, and flower the third year very strongly and finely.

The partially compressed atmosphere of a hot-bed forwards the plants in their growth far more than any stove would do; and this, with attention to frequent potting, will gain a considerable time on M. Faldermann's system, in some instances an entire year. When a bulb has bloomed, the foliage must be perfected by the usual stimuli, which is easy to be seen by a certain hardness which the leaves assume, with a tendency to turn yellow. The supply of water must be now diminished, and ultimately abstained from altogether, and the plants placed in a dry place in the stove or green-house, or, in summer, out of doors in the full sun, tying their leaves so as to prevent their being broken by the wind. In a short time the foliage will die down, when they may be put on any dry shelf, or turned out of the pot, and hung up until the fibres decay, and then put away in boxes or other compartments, as for hyacinths, &c. With this management, *Hippeastrum vittatum* and all the allied species, except a few which do not like turning out or losing their leaves, will never fail to bloom every year, and will frequently throw up two nearly simultaneous scapes, each containing six or seven flowers. Mr. Groom has only to follow this system, and he is sure of success. It seems singular that a person of M. Faldermann's experience should not be aware that there are many most beautiful mules of which *Hippeastrum vittatum* is the parent, viz. by *psittacinum*, *equestre*, *reginæ*, *pulverulentum*, &c., as well as numerous other hybrids, which have bloomed most successfully under the management of the Hon. W. Herbert, whose *Treatise on the various Genera of*

the Amaryllidæ every one should have, and, by the by, whose classification of these bulbs ought to be enforced by some influential body.

Mr. Colville has in his possession two or three hundred mules produced by this most interesting and delightful family.

I fear this communication will trespass too much on the space of your valuable and highly interesting miscellany; but I feel anxious to save another sixteen years' condemnation to one of my genus.

I am, Sir, &c.

Jan. 19. 1828.

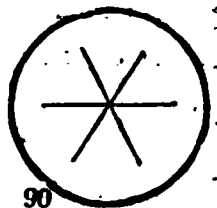
A BLOOMING BULB.

ART. XII. *On the Cultivation of the Carnation and Picotee.*
By MENTOR.

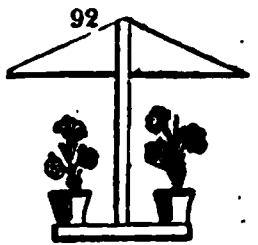
Sir,

ALTHOUGH I am aware that the following detail of the method I pursue in the cultivation of carnations and picotees will be entirely useless to the generality of gardeners, yet as it is founded on experience, and is supported by the authorities of Maddock and Hogg, it may not perhaps be inadmissible to the pages of your Magazine, or altogether uninteresting to the young cultivator of these estimable flowers. Following the plan of Maddock, I shall commence with the formation of the compost heap necessary to the well growing of the plants, in doing which, I use about the following proportion of the different ingredients, viz. after breaking up my melon and cucumber beds in the autumn, I take two sixths of the rotten horse-dung, three sixths of fresh light loam, and one sixth sea and river sand. These are put together in September or October, in quantities sufficient for the purposes of the cultivator, and being well mixed, the heap is to be turned over repeatedly during the winter, in order that every part may be exposed to the influence of the atmosphere, by which means it will be fit for use in the following spring, when the plants are to be potted for bloom. The pots for this purpose may be about 10 in. high, the same dimensions over the top, and 7 in. wide at the bottom, inside measure; these will contain two or three plants, leaving sufficient space for laying the side shoots when the proper time arrives; but, previously to potting, the compost should be once more turned over, and passed through a coarse skreen, in doing which, and in the course of potting, it is necessary to be particularly attentive that no wireworm escapes, as they are determined enemies to these plants. Every thing being in readiness, about the beginning of April, the plants

may be removed from their winter quarters; and, being cleaned from any dead or decaying leaves, they are to be turned out of the pot without disturbing the ball, and a small part of the surface mould being rubbed away, they are to be placed in the large pots for bloom, in filling of which it is advantageous to put a few pieces of broken potsherds in the bottom, and on them a small quantity of the coarser part of the compost, which will effectually drain from them any superfluous moisture; then half fill the pot with the compost that has been skreened, place the plants exactly in the middle, and fill up with compost that has been rendered somewhat finer by being passed through a sieve after having been skreened, as before directed, being attentive that they are placed exactly at the same depth they were before. The compost therefore should be high enough to replace as much of the old mould as had been rubbed off, and let the whole be well shaken down, to prevent any after settlement. When the whole are potted, place them in an airy situation, but so that they may be protected from cutting winds and frosty nights; here they may remain until placed on the stage for bloom, but when they begin to spindle, tall and straight sticks, about 4 ft. in length, must be firmly fixed in each pot, and the flower-stems tied thereto as they advance. At this period the plants are very liable to be attacked by the Aphis, which, if not speedily destroyed, will cause very serious injury to them. This may, however, very readily be done, either by brushing them off with a soft brush, by sprinkling on them while wet a small quantity of dry Scotch snuff, or by washing them with tobacco liquor, diluted with about five times its quantity of soft water. In the month of June, the health of the plants will be much promoted, by giving them a top dressing of about half an inch of very rotten dung passed through a fine sieve. The pods will now begin to swell, and, to prevent them from bursting when they are nearly full grown, a narrow slip of bass mat, well wetted, must be tied round the middle of each; and, should they be inclined to open irregularly, they must be eased on the opposite side, by slitting the pod with the point of a sharp penknife. When the flowers are fully opened, a collar of card board should be placed round the bottom of the blossom, about $2\frac{1}{2}$ in. in diameter, of a circular form, and with a hole in the centre divided by three cuts (*fig. 90.*), the angular tongues of which, when pressed downwards, will clasp the pod, and keep the card in its place; there must also be another cut from the centre to the circumference to admit the stem. By ⁹⁰ this contrivance the flowers will be kept in shape for a con-



siderable time; and, to support the blossoms when carded, a piece of thin copper wire, about 3 or 4 in. long, with a crook at the end (*fig. 91.*), must be fixed in the stick, by means of a small brad-awl, and the stem of the flower passed into the crook, which will prevent its being shaken by the wind. To protect the blossoms from rain or sun, they must be defended by umbrella-shaped caps of pasteboard, with a tin tube in the centre of each to slip upon the stick. The caps should be about 12 in. in diameter, and well painted; a small brad put into the stick will prevent them from falling lower than required. When the greater part of the flowers are in bloom, they should be placed on a stage, the cloth awning of which must be made to roll up and down by means of pulleys or small blocks. The form of the stage is not material, it may be like those generally used for tulips, or of the more portable sort formerly in use, consisting of several up-rights (*fig. 92.*) placed on two earthenware standards, each about 15 in. high, the bottom being placed in leaden or cast-iron pans, 3 in. deep, and filled with water, to prevent the approach of earwigs or other insects; these, being crossed by substantial bearers, will form a stage of any length required, by placing one upright at the distance of every 10 or 12 ft. This kind of stage, when done with for the season, may be stowed away in any dry place, and will occupy very little room. Watering the plants must at all times be attended to, but particularly when the pods are swelling, being careful at all times to wet the leaves as little as possible; and, should the grass at this time appear short or look yellowish, Mr. Hogg, in order to restore them to their proper colour, and to promote their growth, recommends watering once or twice a week, with an infusion of horse or sheep dung (say about a peck of dung to thirty-six gallons of soft water), and this I find fully answers the intended purpose. But to produce a full and fine bloom, it is not proper to allow every bud to blossom, the small and lateral pods must therefore be extracted as soon as they can be perceived, and in general the plants should not be permitted to carry more than three or four blooms. When the grass is of sufficient length, which will be about the middle of July, it will be proper to commence laying them, which is best performed in the following manner: — The pot should be placed on a table, and the operator must sit down when he makes the incision; he must have a sharp penknife, and a steady hand; the layer may be supposed to have four or five joints, the leaves of which are all to be cut off close till within two or three joints of the end, and



its extreme points are to be shortened, so as to leave them about 2 in. long; all the layers in the pot being thus prepared, the surface is to be cleared of what may have fallen on it, and stirred up about 1 in. deep, the pot is then to be filled up nearly level, with some light rich mould, finely sifted; the incision immediately follows; the knife is to be introduced on that side of the layer next the ground, in a sloping direction upwards, to commence about a quarter of an inch below the second or third joint from the extremity, and be continued through the middle of that joint, and one half or three quarters of an inch above it; the small portion left below the joint is to be cut off horizontally quite close to the bottom of the joint, *but not into it*, as it is from the outer circle of it, that the fibres proceed. After the incision is made, the layer is to be gently pressed downwards into the mould, and secured in that position by a fern or other peg, so that the tongue may be buried not more than three quarters of an inch, the other parts of the layer being kept as much as possible on the surface, which will greatly facilitate their rooting, and this, with proper attention to watering and shading, will take place in from five to eight weeks from the time of laying them down. When this is the case, they are to be cut off from the parent plant, with about half an inch of the stalk which connects them to it, and potted in small pots, as recommended below for the pipings. By this method carnations also may be propagated, and the process ought to commence as soon as the shoots are ready, which generally will be about the first week in July. For this purpose a slight hot-bed must be prepared in a sheltered situation, with an eastern aspect, and when the heat is quite moderate, it must be covered 4 or 6 in. thick, with a compost similar to that in which the plants were potted for bloom, but sifted very finely, that the ends of the cuttings, when stuck in, may enter easily, and without injury. The cuttings intended to be piped are to have two complete joints, that is, they are to be cut off horizontally close under the second joint, the points of the leaves are to be shortened, and the sheath, or part that covers the joint, must be carefully peeled off. When thus prepared, throw them into a basin of water for a few minutes, and when the earth on the bed is rendered smooth, level, and rather firm, let it be gently watered through a very fine rose, and, having marked the dimensions of the glass on the bed, the cuttings are to be taken from the basin, one by one, and thrust into the soil with a steady hand, not more than three quarters of an inch deep, and about one inch apart, and then gently watered. The glasses I use for covering them are blown in one piece

(*fig. 93.*), each glass containing about sixteen cuttings; these, being perfectly air-tight, are better adapted to the purpose than those generally used, and particularly for carnations, as they are more difficult to strike than either pinks or picotees. They must not, however, be put over them until the grass of the pipings is dry; but, when it is, press them down close, so that the rim may enter the mould, and it will not be necessary to move them for ten days or a fortnight, unless any decay or mouldiness appear, which must be immediately removed, and, should the weather be hot and dry, water them occasionally over the glasses. After this period they should be taken off, both for watering and airing the pipings, being careful to wipe them clean and dry before they are replaced; and, when the fibres are formed, which will be seen by the verdure and growth, more air will become necessary. The glasses, therefore, must be put on lightly, and more frequently taken off, for the purpose of ventilation, and if it is not convenient to place the bed in the situation above directed, then some hoops or other framework must be placed over the bed, for the purpose of supporting mats, or other light covering, to shade them from the too great heat of the sun. In about six weeks they will, in all probability, be sufficiently rooted, and they may then be transplanted into the small pots (48s), three or four in a pot, where they are to continue until repotted for bloom. It will, however, be proper, after they are put into the small pots, to place them in a cold cucumber or melon frame, with the lights on, observing to shade them from the sun, for a few days, until they again take root, when the glasses may be removed; and here they, as well as the layers, may remain until the beginning of October, when they should be removed to their winter quarters, in a situation open to the southward, and well protected from the north and east, in preparing which I put full six inches of coal-ashes on the ground, previously to placing my frames, and then fill them up with the same article, until the back and front are on the same level with the lights, by doing which the pots at the back of the frame are as near to the glass as those in the front. The glasses should be kept entirely off, except in wet or frosty weather; the plants, however, will bear dry frost infinitely better than damp and foggy weather, and although it is necessary that they should be kept moderately moist, yet it is better to err by under rather than over watering, observing always to be careful not to water them over the grass, and also to keep them clear from dead or decaying leaves, and occasionally to stir up the mould about half an inch deep, to destroy any moss which may appear on the sur-

face, and keep the soil light and open. In the spring, however, they will require frequent watering, and in the beginning of April the operation of potting for bloom is to commence as already described. I am, Sir, &c.

Exmouth, June 22. 1828.

MENTOR.

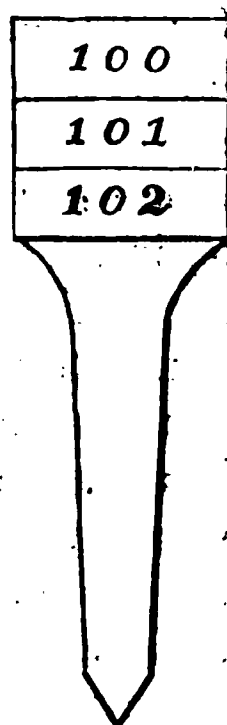
ART. XIII. *Recommendation of a new Tally for Border Plants.*
By M. A.

Sir,

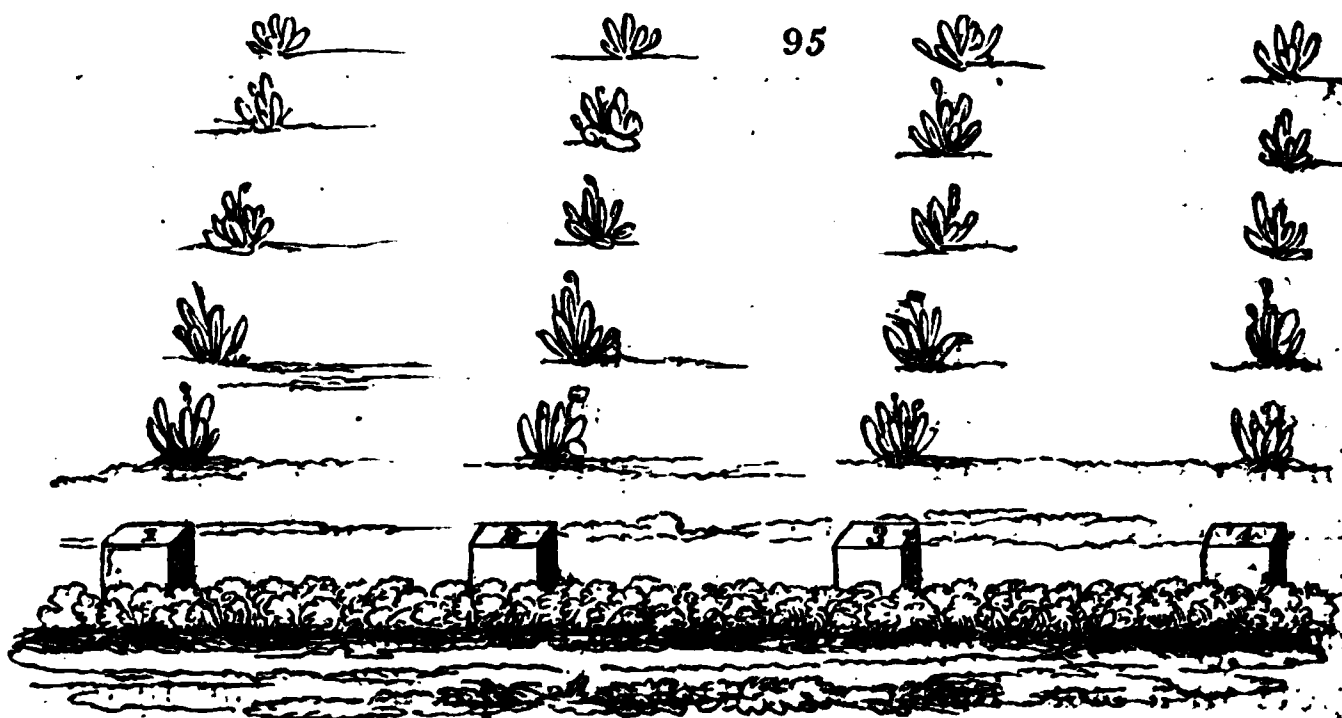
In the Gardener's Magazine you have given communications, from different individuals, on tallies for plants; but all unlike the plan which I have adopted, and which I think preferable where it can be used, as it considerably lessens the number of tallies, and, in course, the expense.

My small collection of herbaceous plants are placed on a narrow border, in rows across, three plants deep: one tally (*fig. 94.*) placed in front serves for each row. On the tally are three numbers, as a reference to a list, or the names may be written instead. The top number or name refers to the back, the next to the middle, and the lowest to the front plant. Its advantage (which may be extended to any number of plants standing in one row) is its saving two out of every three tallies, which is of some consequence in a large collection of plants. I am, Sir, yours, &c.

M. A.



THE plan recommended by our correspondent is adopted, in a simplified form (*fig. 95.*), in some gardens near London, for



instance, in Mr. Jenkins's nursery in the Regent's Park, by printing the numbers on the ends of bricks, and placing a brick at the beginning of each short row across a border. In this way one number serves for five plants, the situation of each of which is easily found by the order of the names after the number in the list. Thus, supposing the first short row to contain five plants of as many different species of *Obriènia* they would stand in the list as under : —

- | | |
|------------------------------|------------------------------|
| 1. <i>Obriènia cærùlea</i> | 2. <i>Obriènia Beaumónti</i> |
| <i>Obriènia cælestina</i> | <i>Obriènia dentàta</i> |
| <i>Obriènia suavèolens</i> | &c. &c. |
| <i>Obriènia pulchérriima</i> | |
| <i>Obriènia nóbilis.</i> | |

Or the same names may be written in the same order on a large cast-iron tally, to be used at the beginning of each short row, instead of the brick. The latter mode, and indeed any mode in which the names are given instead of the numbers, is, in all cases, both in private gardens and nurseries, greatly to be preferred. It saves time in referring to books, has a tendency to prevent deception, mistake, or mystery, and forms a standing lesson by which every spectator or workman, if he has a taste for it, may acquire a little botany. If nurserymen would name all their fruit trees and roses, instead of numbering them, gardeners in time would come to know them by their wood and leaves, and it would not be half so easy to substitute one sort for another, either wilfully or by mistake. In short, in all practicable cases, names should be given and not numbers, on the general principle of diffusing a knowledge of the things designated, instead of merely establishing a more remote means of knowing them. — *Cond.*

ART. XIV. *A successful Method of growing the Cockscomb Amaranth (Celòsia cristàta) to a large Size.* By Mr. ROBERT ERRINGTON, Gardener at Oulton Park, Cheshire.

THE soil I make use of consists of three parts of leaf mould, and one part of bright sand; the pot or pots must be well drained, and the seeds covered but lightly. I sow generally in the first week of March, and place the pots in a sweet moist heat of at least 75°. When the plants are up, and beginning to expand their leaves, I pot them singly into No. 60 pots, adding to the compost a little mellow loam, and placing the pots in a close moist heat with full exposure to the light at all

times, and never above 1 ft. 6 in. from the glass. When the roots get through the bottoms of the pots, shift into No. 48s. They will soon after begin to form their heads, when the finest crescent-shaped are to be selected, and all the rest thrown away. As soon as the selected plants have filled their pots with roots, shift them into No. 32s, in a compost of two fourths loamy soil from a rich pasture, well-reduced, one fourth fine leaf mould, and one fourth clear sand. These soils must be well worked together in a conical heap, and the rougher parts broken very small. As the cockscomb is very impatient of stagnated moisture, the pots must always be well drained, by putting a few broken pieces at the bottom, and some of the coarser parts of the compost over them. Continue a powerful moist heat; water when necessary in the evenings, and syringe occasionally over their tops before matting up for the night.

When the plants are finally established in No. 24s, water them occasionally with a little sheep-dung water, and continue at all times a strong, sweet, moist heat.

By this culture I have grown the dwarf cockscomb 16 in. over the top, when the plant was not more than 11 in. high from the surface of the pot. I am, Sir, &c.

ROBERT ERRINGTON.

Oulton Park, Cheshire, July, 1828.

ART. XV. *An Account of some remarkably large Flowers of the Cockscomb Amaranth (Celòsia cristata).* By Mr. R. L. HOWES.

Sir,

SEEING in your Magazine (p. 101.) a notice of an uncommonly fine specimen of Celòsia, raised by a person at Appleton, near Oxford, and which was supposed to be one of the largest ever seen, I beg leave to inform you, that (without undervaluing the Appleton flower) I raised a larger one at E. Everard's, Esq., Middleton, near Lynn, Norfolk. This flower measured from the surface of the pot to the top of the crest 22 in., and its breadth was 10½ in. The blossom was very compact, and the plant unusually strong; some of the leaves measuring 16 in. in length, by 9½ in. in breadth. My young plants of this year promise to equal those of the last, which were declared to be, by many gentlemen who saw them, superior to any thing of the kind they had ever seen.

I am a great admirer of this plant, and have therefore made the cultivation of it my particular study for these last sixteen years, and consequently have been improving on my treatment. Should my present plants answer expectation, I shall have great pleasure in sending flowers and seeds in the autumn, together with an account of my mode of treatment, should it be considered worthy of notice. I remain, Sir, &c.

Middleton, June 24. 1828.

R. L. Howes.

THE cockscomb alluded to by our correspondent (p. 101.), measured "from the mould to the top of the blossom 3 ft. 6 in., the crest of the flower in length 23 in., and in breadth about 6 in." Mr. Howes's flower being only "22 in. high, and 10½ in. broad," it is, of course, smaller than the Appleton flower. — *Cond.*

ART. XVI. *On the Culture of Solandra grandiflora.*

By E. W. CHURCHILL, Esq. R. N.

Sir,

WHEN at Malta, in May, 1824, I was much struck with the magnificent appearance of a *Solandra grandiflora* (fig. 96.), trained against the wall of the governor's garden at St. Antonio, where it covered at least 50 ft. of wall, and was at that time in full flower. Having had a



Solandra grandiflora eight years in my possession without its ever having flowered, and knowing also many other plants to be in my neighbourhood equally reluctant, I made particular enquiries of the person in whose charge the governor's garden then was, as to the treatment he gave the plant; his answer was, "None, save that of watering it profusely whilst in flower bud." November, December, January, February, and March are months during which heavy rains fall at Malta; April is

showery, May, June, July, August, and September are very hot and dry. The *Solandra* sheds its leaves in September, and does not renew them again till the commencement of April, when they appear conjointly with flower buds. On my return to England, in January, 1826, I removed my plant from the stove into a small green-house, and commenced watering it but slightly. It began immediately to grow rapidly, and, in April, I transplanted it into a tub, 2 ft. 6 in. broad, by 2 ft. deep; the bottom pierced with holes, and well drained. The soil was composed of a mixture of strong loam and vegetable mould from decayed leaves; water was withheld from May till November, when slight waterings overhead commenced. This treatment was continued till February, when the whole plant, which had grown to an amazing size, showed flower buds on every spur. These advanced rapidly, but the gardener having accidentally omitted to water it, every bud dropped as well as leaf. This, I am convinced, would not have happened, had the tub in which the plant was growing been at a greater distance from the flue, which, running under the spot on which it stood, became overheated; but this double mismanagement ruined all. The plant is, however, now doing well. I shall pursue the same plan this year, attending personally to the treatment, and have no doubt of a successful result. If you think this worth insertion in your Magazine, as pointing out any thing novel in the culture of *Solandra*, I am happy to offer it.

I am, Sir, &c.

E. W. CHURCHILL.

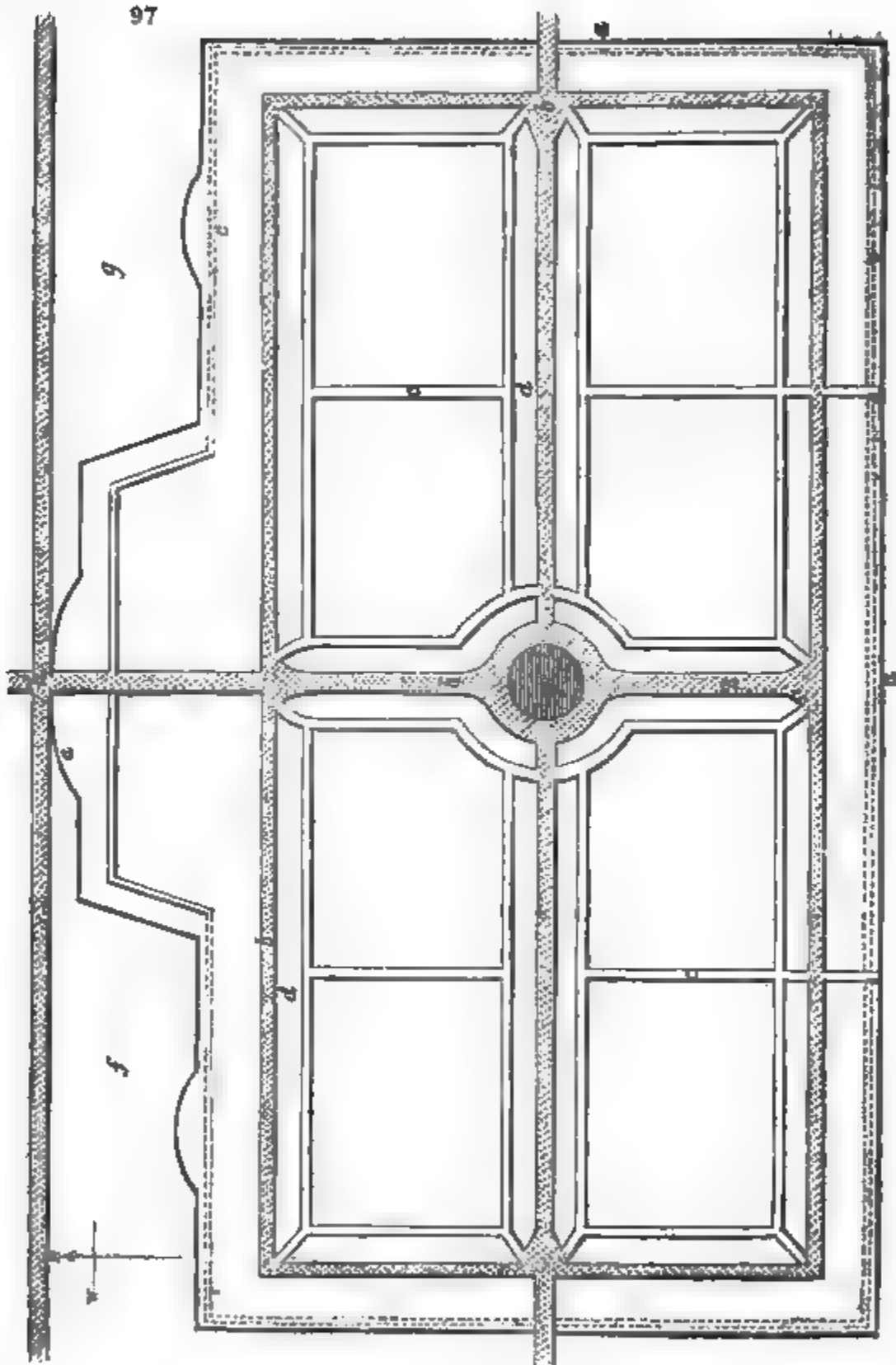
ART. XVII. *On the Formation of Kitchen-Gardens.*

By Mr. WILLIAM WILSON.

Sir,

THROUGH the medium of your useful Magazine, I beg leave to offer a few remarks on the subject of kitchen-gardens. In doing this, I have only to assure yourself and readers that my only motive is the wish to add a little information on a most important branch of our business, and to show, what many seem to consider as doubtful, that a kitchen-garden may be made as agreeable and as interesting a scene as any other part of a country residence. It is too much the fashion to consider the pleasure-ground and flower-garden as the only spots deserving of polish and high keeping, and to allow the kitchen-garden to be laid out in any by-corner, or in any

irregular way which chance may direct ; whereas, being the most useful, it may also, as said above, be made equally agreeable, if proper care be taken to give it that kind of disposition which is in every man's power who understands his business.



Symmetry, due proportion of the walks, borders, and compartments, according to the extent, must be, in the first place, well considered ; next, convenience for executing all the ope-

rations required to be carried on, with the trees, &c., at proper distances; in short, combining all the principal objects and features in such order, that there may be full scope for the cultivation of all the larger crops, and subdivisions enough for the smaller.

Under such an arrangement, the ground duly cropped, the trees neatly trained, the soil and walks free from weeds, and the whole face of the garden clean and orderly, whose eye would such a sight offend? or, rather, who would not be delighted with such a scene?

To show yourself and readers that a kitchen-garden may even be an ornament, I hand you herewith a plan (*fig. 97.*) of one of which I have the charge, should you think it worthy of a place in your work. In this plan you will observe the walls (*a*), the walks (*b*), the paths (*c*), 8 ft. borders round the gravel walks (*d*), a basin of water (*e*), the melon ground (*f*), nursery and reserve ground (*g*), carriage road (*h*) crossing the garden, and slip, which is surrounded by a holly hedge. The whole contains five acres. On the south side a spot is devoted to the hot-houses and flower-garden, but neither this nor the pleasure-ground appears in the plan.

Be pleased to remember that I do not present it as a pattern for others, though I thought it the best I could devise at the time I laid it out, but that it may furnish ideas on the subject, and, perhaps, induce others to send their plans; which, together, might not be an entirely useless part of your Magazine.

I am, Sir, &c.

WILLIAM WILSON.

Merly House, Wimborne Minster, Aug. 28. 1827.

ART. XVIII. *On movable Coping and Coverings for Fruit Walls; and on fastening Wall Trees with Wire and Matting, instead of Nails and Shreds.* By Mr. A. CALDECOTT, F.H.S.

Sir,

I BEG leave to recommend the subjoined plan of a temporary coping made of boards, at a trifling expense, which, by an experience of several years, I have found to answer much better than a permanent one. Being removable when the occasion for it has ceased, it is not attended with the inconvenience incident to a permanent one, namely, harbouring insects, and keeping the sun and dew from the upper branches, when the access of the two latter is desirable. The boards, which may be either deal or larch, should be about three fourths

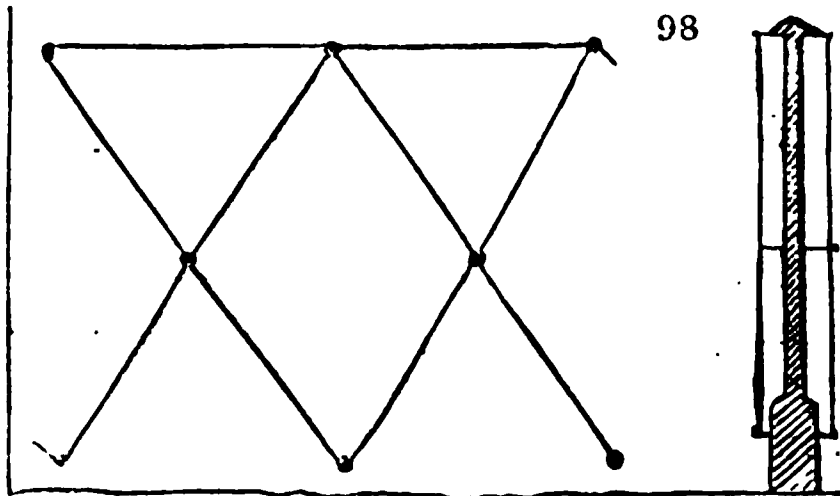
of an inch thick, and 12 ft. long, joining half way between the coping irons; upon two of which, fixed 6 ft. apart, each board must rest, being tied thereto by a cord nailed on its under side.

The coping boards should be of sufficient width to project over the spurs or branchlets of the trees intended to be so protected; and, as a farther defence, I recommend a curtain made of old ships' flags (bought by the cwt.) or bunting, which is far superior to evergreen boughs, netting, or mats. There are two ways of putting up these curtains: one is by nailing them to the coping boards, and drawing them up by cords 6 ft. apart, which, running through rings sewed on tape in the curtains, pass through pulleys secured loosely on the edge of the boards, so as to move sideways, and thereby facilitate the drawing up of the curtains: the other, which I prefer, is by fastening 12 ft. lengths of curtain to two pieces of deal or larch scantling about $1\frac{1}{2}$ in. square, one of which is fixed about 6 or 7 in. in the ground, and screwed to the coping board above; the other, which is only about 1 in. longer at each end than the width of the curtain, is stretched out to the next fixed pole or standard, to which a loop of stiff leather is nailed, to receive its top, whilst the lower end, having a spike in it, is let down into a staple, or spike with an eye in it, at the base of the fixed pole. Thus, by means of these two fastenings at top and bottom, the curtain is kept at full stretch on nights; and, in the day, is rolled back to the fixed pole, and there fastened by a string in the middle.

The former of these modes is better calculated for an entire wall requiring protection; whilst the latter is more suitable for single trees, or a part of a wall.

The curtain is kept from touching the trees, by a tarred string which is fastened to the coping irons, and brods fixed in the wall, 6 ft. apart, in the quincunx form. (*fig. 98.*) These brods project 6 or 7 in.;

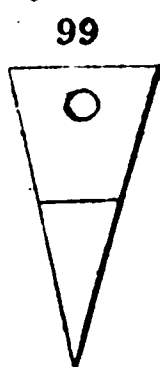
and, in order to prevent the wind getting in at the ends of the draw-up curtain, a board is fixed up, unless the curtain extends the whole length of the wall: and, for the like purpose, similar boards are used for



the pole curtains; though, if enough of the curtain stuff is left on the first fixed pole, to admit of its being nailed back to the wall, a board will be only wanted at the end, or a pole with a piece of curtain to it. I need scarcely add, that it is an insuper-

able objection to all coverings which remain on constantly, that they cannot be thick enough to keep off the frost by night, without being so thick as materially to obstruct the sun and air by day; and thereby generate, by their closeness, insects and blight. Now, the covering here recommended is not only an effectual protection, but, by being removable by day, is not liable to such objections; and the facility and expedition with which it is furled and unfurled, is not its least recommendation.

Instead of nailing my peach, nectarine, and apricot trees, I have adopted a mode of fastening them, which appears to me much preferable. By means of an iron staple of the annexed shape and size (fig. 99.), driven into all the horizontal joints, at the distance of 10 ft. from each other (with the eye standing out half an inch from the wall), I extend a well-stretched copper wire, of the thickness of a straw, very tightly from one end of the wall to the other. To this wire I tie the branches with matting, which, altogether, looks better than shreds and nails. But its greatest recommendation is, its affording no harbour for insects, either for retreating into in winter, or breeding in in summer, which shreds and old nail-holes always do, to the great injury of both trees and fruit; and though, in the first instance, it is expensive, costing 6s. 6d. per yard in length of an 11 ft.-high wall, yet, as it may never require renewing, the annual saving in nails and shreds will soon repay the cost. I therefore would recommend it strongly.



Yours, &c.

Rugby Lodge, May 1. 1828.

ABR. CALDECOTT.

ART. XIX. *On a stationary Machine, or Combination of Lead Pipes, for watering the Interior of the Mould in Hot-beds.*
By Mr. JAMES STEPHENS, Gardener, Carr House, Doncaster.

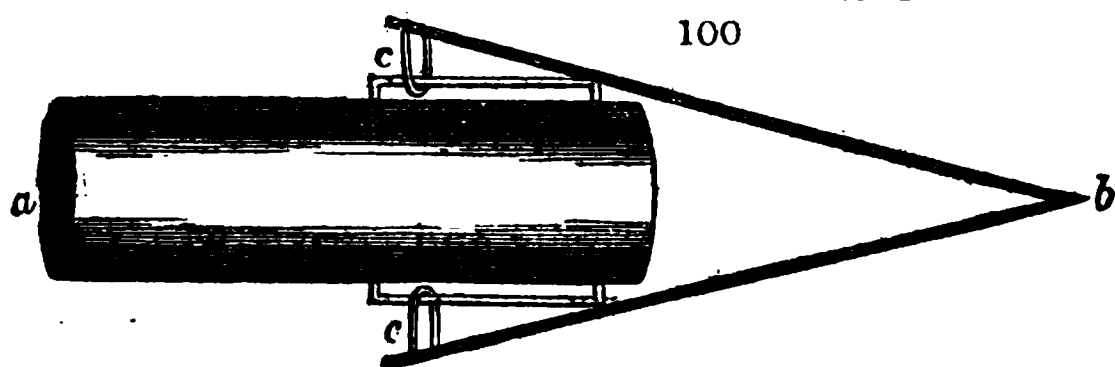
THIS is simply a leaden pipe or tube, 2 in. in diameter, and about 2 ft. long, placed upright between two hills. To its bottom are attached branch pipes, which extend horizontally till they touch the hills, and are then bent circularly so as to surround each. These principal pipes lie about 2 in. above the dung, and have a number of smaller tubes inserted into them, to carry the water, and distribute it equally through perforations, to every part of the interior of the bed of earth. The ingenious inventor affirms that much benefit is derived

from this mode of watering. There need be no dread of a burning heat; the space, where burning begins, may be always temperately cool, and constantly throwing up a fine moist, instead of a parching dry, heat: there is never occasion for immoderate watering above, in order to reach the bottom of the hills: and, in short, the water is so equally diffused throughout the subsoil, that the plants on the surface thrive astonishingly. The cost of such a machine for two lights, is about 3s.

J. STEPHENS.

Carr House, March 28. 1828.

WE are perfectly aware of the absolute necessity there is, in forcing cucumbers and melons, that no part of the bed of earth should become parched by an excess of heat from the dung, and especially where parching most frequently takes place, immediately under the hills of earth; we are also aware that the plants and surface may receive too much water, before the bases of the hills receive enough: but we regret the unnecessary complication of the instrument employed by Mr. Stephens, as we think a more simple contrivance would answer the purpose quite as well, viz. a metal tube (*fig. 100. a*), having



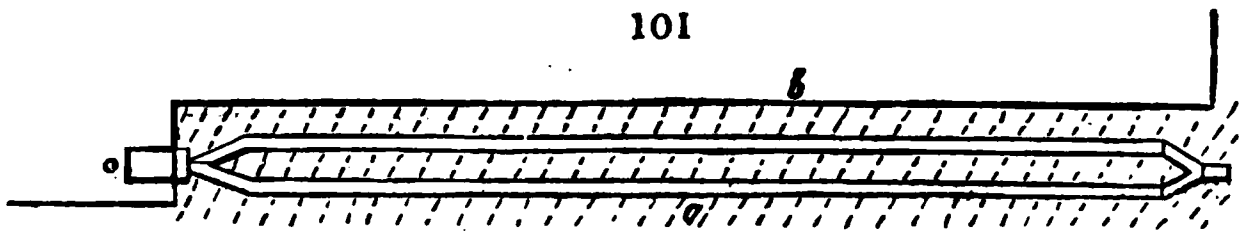
a movable pointed nozzle (*b*), loosely attached by two wires running on two staples (*c*), which, thrust into the mould in any direction, and to any depth, would, when drawn back a little to dislodge the nozzle, convey water to any part, and in any quantity required; care being taken to close the holes after the tube is withdrawn. But this we would recommend to our correspondent's consideration: he has experience, and, we doubt not, he can suggest something which might be of more simple construction, and more general usefulness. — *Cond.*

ART. XX. *Description of an easy and convenient Method of forcing Sea-kale in the open Ground, as practised in the Garden of Pendry Williams, Esq., Pen-pont, near Brecon.*
By Mr. W. VAUGHAN.

Sir,

A BORDER (*fig. 101. a*), at the back of the hot-house (*b*), is heated by a double flue, which, first proceeding from a fire-

place in a shed (c), branches into two divisions at the distance of 4 ft from the furnace. Before reaching the further end,



the flues again unite, and pass out at the end; the smoke escaping by a hole, which is closed with a flat stone, as soon as the flue is warm enough, and the fire put out.

The divisions of the flue are parallel, and at the distance of 3 ft. from each other. Two rows of plants occupy the space between the flues, 1 ft. apart from the flues and each other, and at the distance of 18 in. plant from plant, alternating in the rows. At similar distances are two rows on each outside of the flues, being six rows in all. In the autumn the bed receives a dressing and covering, 1 ft. thick, of old tanner's bark, through which the shoots easily rise, completely blanched. When the crop is required, fires are put to about a fortnight before; and, if so early as the first of December, the bed continues to yield shoots till the month of May. The branches of the flue nearest the fire-place have each a damper fitted in, to allow throwing the heat to one side or other, as may be necessary; and, if both removed, to the whole at once.

I am, Sir, yours, &c.

W. VAUGHAN.

Brecon, March 27. 1828.

ART. XXI. *On the Culture of the Sea-kale (Crámbe marítima).* By F. FORBES, Esq. R.N. In a Letter to Robert Mangles, Esq., of Whitmore Lodge. Communicated by Mr. Mangles.

Sir,

IN reply to your enquiries about the mode of cultivating sea-kale here, I send you the following particulars:— In the month of March, about seven years ago, I was disappointed by finding the quality materially reduced by the alternate frost and wet of the winter. I failed in obtaining a supply of plants in the nursery I applied to, and disliking the patchy appearance of the beds, I directed them to be dug over, and the roots removed. On my seeing the quantity of roots, it occurred to me that something might be done with them; I therefore decided upon trying an experiment. I had them cut into

pieces (see Vol. II. p. 365.), each from 3 to 5 in. long, and planted as sea-kale is usually done. As the summer approached I found a more ample supply, very few having failed. Towards winter, the plants were as strong as could be wished for, and underwent the various processes of forcing, &c.

I have been guided, as to the time of making the new plantations, by the state of the old, taking the roots from those which had done producing, and a few plants afford cuttings sufficient for use. The months of March or April answer equally well.

I have for only one season since omitted following the plan which accident thus pointed out to me, and I certainly consider it the best mode of cultivating this excellent vegetable, besides keeping off the disagreeable appearance of the beds when the plants partially fail. The produce is abundant, and, coming from the young plant, is of a superior quality, and more delicate in flavour.

Yours, &c.

F. FORBES.

Winkfield Place, Windsor Forest, July 4. 1828.

ART. XXII. *Method of forcing Asparagus in the open Ground, in permanent Beds.* By Mr. DAVID SPIERS.

Sir;

I BEG to send you an account of an easy and successful method of forcing asparagus, which, as it has many advantages over the common way of obtaining that favourite vegetable in the winter months, deserves to be generally known. The beds, in width 4 ft. 8 in., and bounded on the sides by pigeon-holed brickwork 2 ft. deep, should lie east and west, in order that the frames may face the south. A bed of 60 ft. in length will require three frames of 15 ft. in length each, and 4 ft. 6 in. wide. The compost for the bed must consist of one half sandy loam, one fourth bog or good vegetable mould, and one fourth good rotten dung, all well mixed together. With this fill the bed, so that, when settled down, it may be a little higher than the brickwork. The side trenches should be 2 ft. wide and 2 ft. deep; these are intended to receive the linings. Along the middle of each trench a drain should be made of common draining-tiles, to keep the linings free from water. The bed will hold four rows of plants, 11 in. distant from each other and from the sides of the bed. Strong one-year-old plants should be preferred, and planted in the month of April. The plants should be allowed three years to esta-

blish themselves, before they are forced. In the month of October, before it is intended to begin forcing, the stems should be carefully cut off, and the surface cleared, and covered with littery straw, 12 in. thick; the trenches may also be filled with the same, in order to keep the whole dry.

If forcing is to begin on the 1st of December, clear away the covering of litter to about 18 in. farther than the length of the first frame; fill the trenches with good, hot, stable-yard dung, well beaten down, and carry up to about 18 in. higher than the surface; next fork up and rake the surface of the bed, and immediately cover it, from lining to lining, with prepared dung, a few inches higher than the linings. In about twelve days after applying the dung examine the bed. If the buds have begun to appear, or as soon as they do, get the frame and lights ready to be put on; remove the dung from off the bed, laying it on each side, the greater portion to the back; when the bed is cleared, sift over the surface a little previously prepared fine mould; set on the frame and lights immediately, and work up the linings with the dung taken off the bed, laying a part at the ends; and then double mat the frame for two days. When the linings have taken their fresh heat, the covering may be removed every morning as early as the weather will permit, again matting up early enough in the afternoon, and keeping up the heat of the linings, should they decline. When the shoots have risen about 2 in., particular attention should be given in admitting air, in order that the crop may have a good colour; and, with such management, cutting may commence on Christmas day. In ten days after the crop in the first frame comes into use, preparations must be made for the second, and so for the third, in the way above described. The frames are placed close to each other, and all managed in the same way. The remaining portion of the bed receives the first frame, and will only require a back and front lining, which will give, assisted by the second and third frames, a fair supply till the natural crop comes in. When the forcing is over, the bed should be covered 3 in. thick with rotten dung; and if occasionally watered in the ensuing summer with manured water, it much assists plants which are intended to be forced every season. If the dung in the trenches is wanted for other purposes, they should be filled with litter, to preserve the sides of the bed from drought. Forcing should not be begun always at the same end of the bed, but alternately. I have found wood covers, 15 ft. 6 in. in length, by 4 ft. wide, very useful for sheltering the bed by night, or in severe weather, especially in keeping the whole dry.

It is needless to show how far this system of forcing asparagus may be extended, or to point out to practical men the advantages attending it. Parallel beds may be forced in the same way, so that the intermediate linings be not too much trodden on, as this always checks their working kindly. Beds so treated will continue productive for many years.

I am, Sir, &c.

DAVID SPIERS.

Mr. Knight's Nursery, King's Road.

ART. XXIII. *Abridged Communications.*

METHOD of forcing Cucumbers by Fire Heat, practised at Reading, in Berkshire, in the Garden of William Stephens, Esq. By John Forrest, late Gardener there. — This plan of forcing early hot-bed crops, may be particularly convenient where stable-yard dung cannot be conveniently had, or even where it is scarce. It is as simple as it is economical, requiring only an excavation $2\frac{1}{2}$ feet deep, and of the length and breadth of the frame, to be first dug out; in this a flue of brick or any other material is carried along, nearly on one side of the pit, from a furnace at one end, and returns on the other to a chimney carried up over the fire-place. Posts are driven at the corners, and intermediate ones at back and front. On these posts are laid a stage of wattled (i. e. wickerwork) hurdles, closely enough woven to prevent the mould of the bed from falling through. On this platform a frame of sufficient depth is placed, and within this a bed of suitable compost, 18 in. thick, is put for the plants. By this trifling structure and simple means, a perfect command of heat is obtained, at very little expense; and, where proper skill is applied, and the necessary degree of moisture is maintained, in connection with the fire heat, there is no doubt of a successful result. When the required heat (70°) is found in the frame, a *damper* fitted at the bottom of the upright chimney is shut, thereby confining the heat in the flue and heat chamber, which is further regulated by ordinary coverings. This simple plan, and consequently successful hot-bed management, do great credit to the inventor, and we sincerely wish that he had a situation where his abilities might be exercised to his own and his employer's advantage.

Kinmel Park, Denbighshire. — This is the beautiful seat of W. L. Hughes, Esq. M.P., situated about four miles west from St. Asaph. The mansion is surrounded by a park, well

stocked with deer. A well-disposed pleasure-ground commands extensive and interesting views of a large tract of country towards the Irish Channel. Every feature of a fine landscape is here presented to the eye: hills, rocks, and valleys, interspersed with fine timber trees, enrich the scenery.

In the park, the beech and balm of Gilead firs are uncommonly stately; some of the latter measuring 84 ft. in height of stem, and 10 ft. in circumference at the base. Among the ornamental trees, there is an oak which deserves particular notice. This, twenty or thirty years ago, lost one of its largest branches by the wind, and a partial decay was the consequence; a key from a neighbouring sycamore fell into the fracture, which, vegetating, has formed for the old mutilated oak a new head. This parasite appears to have so completely seated itself, that, though the place of its first lodgment is 12 ft. from the ground, our informant thinks that its roots will very soon penetrate to the earth, and at last destroy its venerable nurse.

The kitchen-garden contains eight acres, within walls 12 ft. high. The forcing-buildings are extensive, consisting of peach houses and pine stoves. For the latter purpose, a Dutch pit, 74 by 8 ft., is found more effectual for swelling off the fruit, than even the fruiting-houses are. The whole appears to be a forcing-establishment on a most respectable scale; as the surface of glass contains no less than 6802 square feet.

Curious Method of preserving Apples, &c. — In autumn, when the apples are gathered, they are laid on square wicker hurdles constructed for the purpose, and which fit into a frame, one above another, upon ledges, so that those above do not rest on the fruit below. The lowest tier of fruit must be high enough from the ground to permit a fire of brushwood to be kindled below. The frame may be made to hold six or eight hurdles, and when overspread with fruit, each placed separately, its sides are covered with mats, to keep the smoke closely and longer within. The fire is made of vine branches, and continued till the fruit are, as it were, glazed over with the fuliginous matter from the fire. The apples are then wrapped up singly in paper, and packed in chests or barrels, to be kept for use. These packages require looking over occasionally during winter, to free them from any decayed fruit, which would injure those that remain sound. — [The pyroligneous acid seems the preservative agent in this process.] — *T. A. Meyer. Clapton Nursery, Jan.*

PART II.

REVIEWS.

ART. I. *Transactions of the Horticultural Society of London.*
Vol. VII. Part II.

(Continued from p. 244.)

TREES or Shrubs (continued). — *Pyrus melanocarpa*. This is generally known in the nurseries as *Méspilus montana*, and by Messrs. Loddiges and Messrs. Whitley and Co., as *P. pennsylvanica*. Messrs. Loddiges have also a variety of this called *P. xanthocarpa*, which is of a dwarfish growth. It is a native of the southern states of North America. — *Pyrus pubens*. A handsome species, received under the name of *P. capitata*, from Mr. John Miller of Bristol. — *Pyrus grandifolia*. A very fine and distinct plant, also from Mr. Miller of Bristol. — *Pyrus Aria Ehrhart*. Received from Mr. Ronalds of Brentford. Of this there are seven varieties in the garden. — *Ulex europæus*; double variety. This resembles the common furze of this country, only its habit is more compact. The flowers are numerous and completely double, a singular circumstance in a leguminous plant. Received from Mr. John Miller of Bristol, in whose nursery it was first raised. — *Prunus serrulata*. This species was sent from China, by Mr. Reeves, in 1822, under the name of Yung-to (by which name the *Averrhoa Carambola* is also known), and is commonly called the Double Chinese Cherry. It is one of the most beautiful hardy plants, and preferable to any other flowering cherries in cultivation. — *Prunus salicina*. This is commonly called the Chinese Plum; it was sent from China in 1822, under the name of Ching-cho-lee Plum. The plants are kept in pots, or planted against a south wall; the flowers are small, and the fruit like that of the *P. cerasifera*. — *Ribes aureum Pursh*. Of this plant, the variety called *præcox* by Mr. Lindley is perhaps the best. The fruit is ripe in July, and in its wild state, if grown on dry limestone rocks, is good; but on rich soil useless. There are three varieties. — *Ribes tenuiflorum*. The foliage of this plant becomes deep crimson in autumn, and is then highly ornamental. There are two varieties, one bear-

ing black, and the other yellow fruit. — *Ribes setosum*. This came to the garden under the name of the Missouri Gooseberry. It is a desirable species, and is by far the most ornamental of all the gooseberries. The fruit possesses no merit. It is a native of the banks of the Saskatchewan River, North America. — *Ribes alpinum* var. *pumilum*. From its hardiness, this is a desirable shrub. It was received from Mr. Miller of Bristol. — *Caprifolium Douglàsii*. This new species of honeysuckle is a native of Canada, and was introduced by Mr. Douglas in 1824. — *Anagyris indica*. Botanists are not agreed about this plant. It was received for a *Virgilia*, referred to *Thermopsis* by Messrs. D. Don and Decandolle, and to *Baptisia* (?) by Dr. Hooker. The plant is perfectly hardy, and a good addition to our shrubberies. — *Rubus parvifolius* *Lin.* This was introduced from China in 1818, and produced fruit for the first time in 1825. When in fruit, it was one of the most ornamental plants in the garden. — *Podanthus miliqui*. A native of Chile, of no beauty, but with curious botanical characters. M. la Gasca confirms the opinion of its being a genuine species of *Podanthus*.

Herbaceous Plants. — *Astragalus chlorostachys*. A diffuse bushy perennial, perfectly hardy, which flowers from September to the end of October. — *Eccremocarpus scaber* *Ruiz and Pavon*. This is a graceful creeper, raised from Chilean seeds in 1825. Half hardy, with brilliant panicles of glowing scarlet blossoms. Propagated by seeds, like a tender annual, though sometimes the seeds lie till the second year. — *Mikania scandens* *Willd.* A very pretty perennial, flowering in September. From its near relation to *M. Guaco*, it may be presumed to possess some of the medicinal properties of that species. — *Lespedeza capitata* *Michaux*. An herbaceous plant, covered with silvery leaves; it thrives in a peat border. — *Althæa nudiflora*. A biennial with a stem 6 ft. high, and the habit of a hollyhock. Raised from seeds from the Altai mountains, and presented by Dr. Fischer in 1824. It is quite hardy, and flowers abundantly in August. — *Nolana tenella*. Presented by R. Barclay, Esq., by whom it was first raised. It has been confounded with *N. paradoxa*, a very different plant, and it greatly excels *N. prostrata*.

5. *Suggestions respecting the Culture of the Mango and Chermoyer.* By T. A. Knight, Esq. President. Read June 19. 1827.

Mr. Knight states that Mango trees kept in pots, unplunged in bark or earth, never set their fruit like those which were plunged; and, that this appeared to be in consequence of the

unplunged plants being excited to produce a strong growth of shoots from the bottom, at the time of setting, which diverted the powers of the plant from the production of fruit. The President was at a loss to account for this, till he saw M. Dutrochet's publication on vegetable physiology, in which the agency of electricity is shown to have great effect in the motion of vegetable fluids. Applying this new doctrine to the case of his insulated Mango plants, he supposed that the roots received too great a share of aerial electricity, and were thereby excited to produce shoots below, instead of propelling the stimulated sap to the extremities. The President has also noticed similar derangements of the proper growth of the Cherimoyer (*Anona Cherimòlia*), and imagines that this may be the cause why many other hot-house plants so kept never show flowers or fruit. On the other hand, it is admitted that certain fruit-bearing plants, as the peach, nectarine, and strawberry, are improved in flavour, and the fig in fruitfulness, by being so exposed to the air.

How far M. Dutrochet's discovery, or Mr. Knight's application of it may be right, it is unnecessary to enquire; it is, however, more than probable, that practical men might come to a different conclusion from that of the worthy President. We request our practical readers to contrast this paper of Mr. Knight's in favour of bottom heat, with those which he formerly published against it.

6. *Some Account of the Malcarle, or Charles Apple.* By John Lindley, Esq. F.R.S. L.S. &c. Assistant Secretary. Read February 19. 1828.

The Malcarle is a tender Italian apple, having many excellencies; there seems, however, no chance of its being brought to perfection in this climate, unless planted against a south wall, in some favourable inland situation.

7. *Review of the Fifty Kinds of Grapes described by Mr. Speechley, in his Treatise on the Vine.* By Mr. Joseph Thompson, C.M.H.S. Gardener to His Grace the Duke of Portland, Welbeck, Nottinghamshire. Successor to Mr. Speechley. Read February 5. 1828.

This is a history of the different kinds of vine collected chiefly by the late Mr. Speechley, and mentioned by him in his treatise. It is composed from memoranda of the writer, and of Mr. Thomas Hunt *, a fellow-student, while under Mr. Speechley,

* Mr. Thomas Hunt was kitchen-gardener at Bulstrode for several years previous to 1796, when he retired, from bad health. He died about 1799,

at Welbeck, about 1786. Mr. Thompson's subsequent observations and corrections make the whole a valuable communication, and of great use to those who may be forming collections of grapes, or looking out for the best sorts for cultivation.

Mr. Speechley's list contained one hundred and twelve names; but he had doubts whether there were more than half the number of distinct kinds. His published list, therefore, was not a perfect standard, and much disappointment was the consequence among nurserymen and their customers. To remedy these defects is the avowed object of Mr. Thompson's paper, and out of the list he recommends the following as worthy of cultivation: —

White Muscat of Alexandria. A rich, well-known, hot-house grape. — Black Damascus, or Worksop. Rich, but tender, and a shy bearer. — Black Tripoli. Inferior, but more prolific than the preceding. — Aleppo, or, more properly, Leopard, Grape. Valued for its fruitfulness and curiously striped berries. — Syracuse Red. Its best qualities, strong growth and fruitfulness. — Muscadel, Mogul, or Black Raisin. Tolerably good, but discarded. — Frontignac. The White, Black, and Grizzly, excellent; but the Red not so good as the Grizzly. The Blue is said to be the true Old Frontignac. — White Sweet-water [Diamond or Pearl Druff i. e. Pearl Drop]. Excellent. — Black Sweet-water. Rather inferior. — Black Hamburgh. A well-known favourite. — Red Hamburgh, or Gibraltar. Inferior to the preceding. — Genuine Tokay, or Maurillon. A real good grape. — Lombardy, or Flame-coloured Tokay, otherwise Rhenish Red. Handsome, but inferior in flavour to the other Tokay. Alicant, Black Spanish, Valentia, Portugal, Lisbon, Prince. These are all names given to this grape; it is not at all like the old Lombardy, now called West's St. Peter. — White Muscadine, or Chasselas. Good, but too tender for a stove. — Black Muscadine. Good, and well known. — Royal Muscadine. Not so good as the White. — Claret. — Syrian. Well known [bunches remarkably large, but only proper for a stove]. — Miller's Burgundy, Black Cluster, and Large Black Cluster. All common, and well known. — St. Peter's Grape. Inferior. — Ciotat, or Parsley-leaved. — Greek Grape. Prolific and good, but keeps badly. This is, in some places, called the Green Chee. — Corinth. Well described, but soon decays.

leaving a widow (who now, 1828, keeps the post-office, Gerrard's Cross), a son, and daughter. He was not less valued as an excellent gardener, than as an obliging neighbour and worthy man.

— Cornichon [a little horn]. Curiously shaped berry, but inferior in quality, though it keeps well.

8. *An Account of the Species of Calochortus, a Genus of American Plants.* By Mr. David Douglas, A.L.S. Read February 19, 1828.

Pursh first noticed this genus; and it was afterwards found by Mr. Douglas, near the river Colombia. It is nearly related to *Fritillaria*, and is intermediate between that and *Lilium*. The bulb is solid, the leaves linear, convolute, and strongly nerved; flowers large, showy, of a rich purple, with a transverse brown streak. The species described are *C. macrocarpus*, *nítidus*, and *élegans*. A fourth species is said to grow near the confluence of Oakenagen River; the root is used by the Indians as food, and the plant is magnificent.

9. *An Account of some Improvements in the Construction of Hot-beds.* By T. A. Knight, Esq. President.

In this paper it is stated, that hot-beds can hardly be kept warm enough in winter, without danger of burning the earth under the roots of the plants; and that though there is abundant heat in the body of the fermenting substances of which the bed is composed, yet this cannot be admitted to repel frost in the common way of making the bed. To get full command of this interior heat, the President recommends placing a thin iron or wooden tube from front to back of the leaves or dung composing the bed, and at about one third of its height from the top. This tube is $1\frac{1}{2}$ in. in diameter, open at both ends, but intended to be opened or closed by plugs at pleasure. Three smaller tubes, of three quarters of an inch in diameter, are inserted at equal distances into the large one, which rise through the dung and mould of the bed, and discharge, by lateral holes near their tops, the heated air which rises from the large tube, the latter having its lower end open, and its upper end closed. This simple apparatus, Mr. Knight asserts, will be sufficient to keep the air within a frame 6 ft. long at a proper temperature; and equal to resist any degree of cold, without mat-coverings, provided the glass is laid in lead, or has the lappings puttied up. The President has not had full experience of this scheme, but expects the best results from it; and certainly, if so small a tube could collect, and by its branches transmit, a sufficiency of heated air into the frame, the plants might receive a larger share of light, which the ordinary way of covering deprives them of, and which in the winter would be of material advantage.

10. *On the Treatment of the Nymphaea rubra.* By Mr. Christie Duff, C.M.H.S., and Gardener to the Earl Grosvenor, at Eaton Hall. Read December 18. 1827.

The plants never flowered in the stone cisterns in which they had been kept, owing, as Mr. Duff thought, to their being too far from the glass, and for want of sufficient heat. The tubers were therefore taken up, and put into small pots, according to their size, plunged nearly to their rims in water, and kept in the stove till their leaves began to rise in the months of April and May. They were then shifted into cisterns and large glazed pots, in soil composed of strong clay at the bottom, then light loam, covered with sand. The cisterns and pots were placed on the end flues, and raised near the glass; and some of the latter were plunged in the corners of melon frames. By giving a due supply of water and heat, they grew rapidly, throwing out runners which were from time to time pinched off. The *N. rubra* flowered in August; the *N. caerulea* and *odorata*, under similar treatment, produced abundance of flowers, and the *Nelumbium speciosum* flowered also, and ripened its seeds.

(To be continued.)

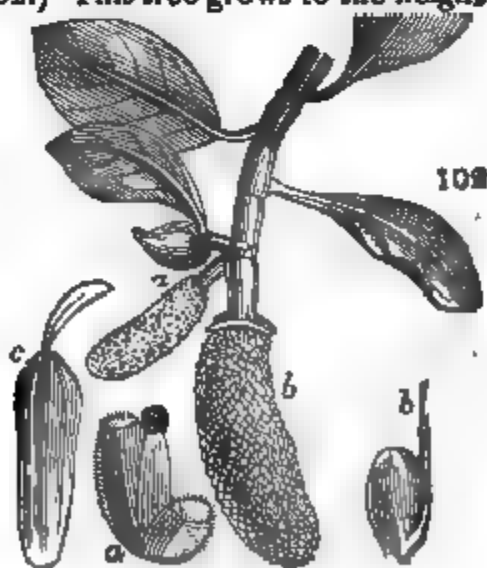
ART. II. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., published since July last, with some Account of those considered the most interesting.*

BRITAIN.

Curtis's Botanical Magazine, or Flower-Garden displayed; New Series. Edited by Dr. Hooker. In 8vo Numbers, monthly. 3s. 6d. col.; 3s. plain.

No. XIX. for July, contains

2833 to 2840. — *Artocarpus integrifolia*, Entire-leaved Bread-fruit, or Jack, tree; 20 and 1, and *Urticæ*. (fig. 102.) This tree grows to the height of 30 ft., with a trunk of from 8 to 12 ft. in diameter. It is a native of the East Indies, and cultivated both there and in the West-India Islands. Male and female flowers are produced on the same branchlet, the male (*a*) mostly laterally, and the female (*b*) terminally. The fruit (*c*) is a muricated pericarp, it varies considerably in shape, and the fleshy part is eaten by the natives, and by strangers, after they have become accustomed to its very strong and offensive smell. "When rotting under the tree, the odour of the fruit is highly disgusting: in this state affording support to hundreds of Curculionidæ Staphylinidæ, Forficulæ, &c. (Goulding MSS.) The



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seeds, however, are allowed by all to be good, and even, when roasted, to have the taste of chestnuts. In Amboyna, the bats greedily devour this fruit, and, passing the seeds entire, thus aid the more extended propagation of the plant. In Ceylon, where the tree grows most plentifully, and where it attains the greatest size and perfection, it forms a considerable part of the diet of the natives, at particular times of the year. The unripe fruit is also used pickled, or cut into slices and boiled, or fried in palm oil. The wood itself is like mahogany in colour, when it has been for some time exposed to the air: and, in some parts of India, is on that account employed to make furniture of. It is more commonly employed in building houses, for which it is well suited. From the juice, or milk, a very viscid birdlime is made."

Dr. Hooker sees no reason for making two species of this plant, both entire and cut leaves being found in the same individual, and the different quality and flavour of the fruit probably depending upon cultivation. The *Artocarpus* flowered last December, in the stove of the Edinburgh botanic garden.

Dracæna australis; *Asphodellæ*. Figured from a plant which flowered in the green-house of the Edinburgh botanic garden, in May, 1827. — *Chetogaster lanceolata*; *Melastomæ*. An annual from the West Indies. — *Nicotiana glauca*; *Solanæ*. A tender annual from Buenos Ayres. — *Osbéckia glomerata*; *Melastomæ*. From the West Indies, and apparently an annual. — *Milva angustifolia*; *Malvæ*. From Mexico, suffruticosa, and very ornamental in the open border. — *Hedyotis campanuliflora*; *Rubiæ*. The *Eginetia capitata* of Jameson's *Journal*. A very beautiful herbaceous plant, from Brazil, flowering in the stove almost the whole of the year.

No. XX. for August, contains

2841 to 2847. — *Tillandsia* (from Prof. Tillands, bot. auth. in 1683) *pititacina*, Parrot-like-flowered *Tillandsia*; *Bromeliæ*. An inhabitant of the trunks of trees, recently introduced by W. Harrison, Esq., of Rio de Janeiro, "to the rich collection of his brother, Richard Harrison, Esq., of Aighburgh, near Liverpool." This plant may "certainly rank among the most beautiful of this curious genus," from the singularly brilliant colour of the rachis, bractæ, and flowers. — *Primula verticillata*, Whorled-flowered Primrose; *Primulæ*. (fig. 103.) Raised in the Glasgow botanic garden, from seed from M. Otto, C.M. FLS., of Berlin, in 1826, and flowered in the beginning of March, 1828. "The divided edge of the corolla seems the only deviation from the essential character of *P. verticillata* of Forskal, and the analogy of other species, as *P. prenietens*, shows that this cannot be relied on as a specific distinction." This plant was found by Forskal, "growing by the sides of streams on the mountain Kurma, in Arabia Felix." — *Gaulthéria* (Gaulthier, a French physician, who wrote on the sugar-maple) *Shallon*; *Eri-cæ*. This plant was discovered by Archibald Menzies, Esq., on the north-west coast of America, "growing in pine forests, under the shade of trees, where scarcely any other plant would live." Its handsome and graceful flowers, with the large, glossy, evergreen leaves, render it a most desirable plant for the American border. Its berries are much esteemed by the natives, "on account of their agreeable flavour; and we can attest their excellence from having tasted some which Dr. Sconler brought home." — *Epidendrum fuscatum*, Dingy-flowered *Epidendrum*; *Orchidæ*. From St. Vincent, by the Rev. L. Guilding; and, being treated as other tropical



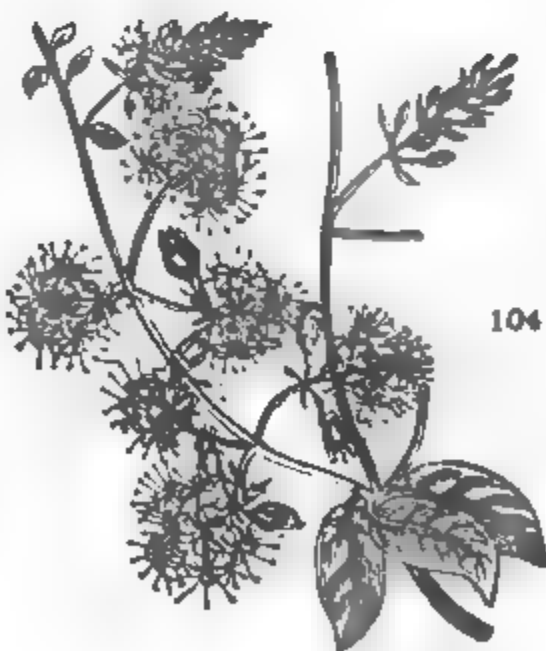
Orchidaceæ, it bore flowers in March, 1828. — *Justicia quadrangularis*; Acanthaceæ. A very distinctly marked species, with a purplish red corolla; flowers in January. — *Begonia papillosa*. Unequally cordate leaves, bright green and shining on the upper surface, and red and glabrous below; pink flowers; stove. — *Rosa sinica*. A climbing much branching shrub, with long, flexible, green branches, and a beautiful smooth bark. The leaflets three, and the flowers solitary, very large, fragrant, and white. From Georgia, into which it was probably imported from China. Long known in British collections by the name of the Cherokee Rose. Elliot, in his *Flora of South Carolina and Georgia*, observes, "In our rural economy, this plant will one day become very important. For the purpose of forming hedges, there is perhaps no plant which unites so many advantages; and in quickness of growth, facility of culture, strength, durability, and beauty, it has perhaps no rival."

Edwards's Botanical Register. Continued by John Lindley, F.R.S. L.S. &c. Professor of Botany in the London University. In 8vo Numbers, monthly. 4s. coloured.

No. V. for July, contains

1159 to 1165. — *Antholyza* (*anthos*, a flower, *lyssa*, rage; aspect of flower) æthiópica; Iridææ. A handsome Cape bulbous-rooted plant, thriving in light sandy soil in a cool green-house. — *Amýgdalus communis* var. *macrocarpa*. A beautiful variety of the common almond, with flowers twice the usual size, which remain longer, and are succeeded by a larger fruit. There is only one plant in the garden of the Horticultural Society; but, as it is as easily increased as other almonds, we hope it will soon be purchasable in every nursery. — *Cratægus heterophýlla*. By far the handsomest of the white-flowered species of hawthorn, and remarkable for its black berries. There is a fine tree of it in the grounds of Mrs. Marryat, at Wimbledon. — *Thryallis* (an ancient Greek name for a plant of the mullein kind) *brachystachys*; Malpighiaceæ. A tender, handsome, climbing stove plant, from Rio Janeiro to the Horticultural Society, in 1823. It attains the height of 8 or 10 ft., produces its yellow flowers in great profusion in September and October, and is propagated by cuttings struck in peat and sand. — *Linum sibiricum* var. *Lewisii*; 5 and 1, and *Linææ*. A handsome hardy perennial, about 1½ ft. high, with large blue flowers in May, June, and July. It "differs in nothing from *L. sibiricum*, except in having larger flowers, and being more glaucous. The existence of the same plant in North-west America, is only one of numerous other examples of the great resemblance of the Floras of those two countries."

Magnolia Yulan var. *Soulangeana*. "A very handsome variety of the Yulan Magnolia, obtained from a seed of *M. Yulan*, which had been fertilised by the pollen of *M. obovata*." Mr. Sweet, who has figured the same plant in his *Flower-Garden* for this month, says: "Its other parent was supposed to be *M. obovata* var. *purpurea*, but the recurved styles prove that to be erroneous, and determine it to have been the *M. Kôbus* (the *M. gracilis* of Salisbury), which is also a purple-flowered species." Mr. Sweet has had a plant flower in his own garden, and considers that this hybrid



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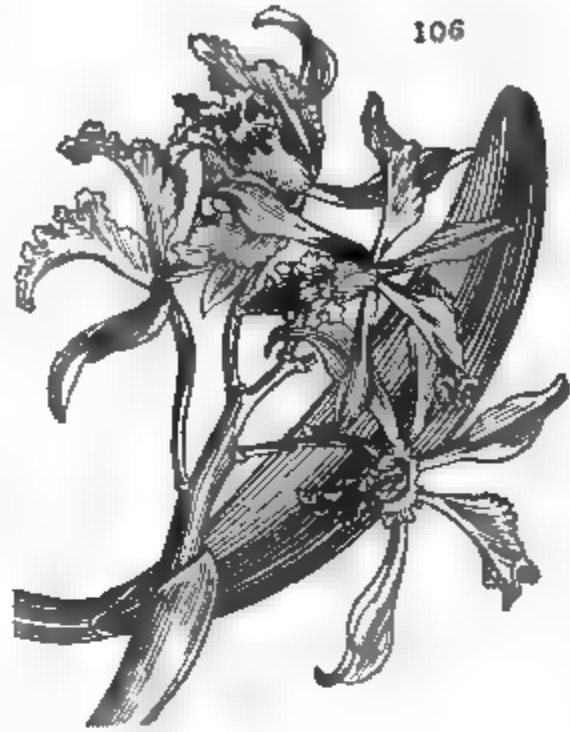
production will be a great acquisition to the ornamental plants of the country. — *Combretum comosum* (fig. 104.); *Combretaceæ*. A fine climbing stove plant, from Sierra Leone, by Mr. G. Don, to the Horticultural Society, in 1821. It is of easy culture, and has been extensively distributed, but has produced flowers only in the garden of the Comte de Vande, at Bayswater. Its effect there was most splendid, forming a dense mass of carmine, several yards in surface, close under the glass. It was made to flower by a bandage of wire, tied round the stem, close to the root.

No. VI. for August, contains

1166 to 1172. — *Collomia* (*kollé*, glue; sticky mucilaginous coat of the seeds) *linearis*; *Polemoniaceæ*. "A neat little hardy annual, more remarkable as a botanical curiosity." From North America, by Mr. Douglas, to the Chiswick garden, where it has now almost become naturalised. *C. grandiflora* is another very fine species of this genus. Sown at different seasons, it will continue to flower the whole year. — *Eriophyllum* (*erion*, wool, *phylon*, a leaf; woolly foliage) *cæspitosum*; *Compositæ*. A handsome, herbaceous, decumbent, spreading perennial, with yellow flowers in May and June, a season when there are few yellow border flowers. From North America, by Mr. Douglas, to the Horticultural Society. — *Escholtzia californica*; *Papaveraceæ*. (fig. 105.) From the north-west coast of America, by Mr. Douglas, who transmitted seeds to the Horticultural Society in 1826. Each plant forms a wide patch of decumbent stems, covered with a fine, healthy, glaucous foliage, "upon which repose hundreds of rich yellow flowers, unfolding their interior, of a dazzling brightness, under the influence of the sun, but closing at the approach of rain." The flowers appear in the early part of June, and are produced during the remainder of the season. "The species is perfectly hardy, and is propagated readily by seeds, which are produced in abundance. It is requisite to observe the following precautions in its management:—The seeds should be sown in March, in small pots, and placed in a frame, with a little heat. When the young plants have acquired ten or twelve leaves each, and not before, they should be turned out of their pots in the open border, in the place in which it is intended they should remain. Afterwards they cannot be readily transplanted, as their roots become very fleshy and brittle, and bleed copiously if broken, which must necessarily happen in removing a larger plant." On the coast of California it is confined to open, dry, light, or sandy soils, where it flowers from June until it is destroyed by frost. Perfectly hardy, and readily propagated by seeds; flowering in the early part of June, and continuing during the greater part of the year. — *Dracaena* (*drakæna*, a she-dragon; juice resembles dragon's blood) *sarculosa*; *Asparagaceæ*. This very handsome, shrubby, stove, monocotyledonous plant is a native of Sierra Leone, whence it was sent to the Horticultural Society, by Mr. G. Don, in 1821. It produces yearly slender suckers, about 3 ft. long, resembling asparagus; the leaves are oblong-acuminate; flowers white. Rarely blooms, and has not yet produced fruit. — *Gilia capitata*; *Polemoniaceæ*. This pretty, hardy annual, with lively blue flowers, is common all over the north-west country of North America, where it was discovered by Mr. Douglas. Flowers about the middle of June, and remains in perfection nearly three months; the easiest culture. — *Amelanchier* (a Piedmontese word) *anguinea*; *Rosaceæ* § *Pomaceæ*. A handsome shrub, hardy, and resembling in appearance the Snowy *Myopilus*, but distinguished from that, and all the genus, by its young leaves being death-



title of pubescence. From Hudson's Bay, by W. Williams, Esq., to the Horticultural Society, in 1824. — *Cattleya crassa* (fig. 106.); Orchidæ. A splendid epiphyte, sent from Rio Janeiro, by Sir Henry Chamberlayne, Bart., to the Horticultural Society, in 1826, and flowered in August, 1827. It is very distinct from all other species of *Cattleya*, in colour, and in the form of the labellum, and other segments of the flower. Leaf solitary, seated on a subcylindrical angular bulb, oblong-lanceolate, emarginate. Spike of four or five flowers, from the axilla of the leaf. Segments of the perianthium white, the outer linear-lanceolate, unguiculate, narrower than the inner, which are wavy, and curled at the edges. Labellum acuminate, deep purple inside, with an exceedingly curled margin." Grows freely in decayed vegetable mould. The specific name is given in compliment to W. Cattley, Esq., of Barnet, in Hertfordshire, who at one time was a great patron of botany, and had a collection of very valuable hot-house plants.

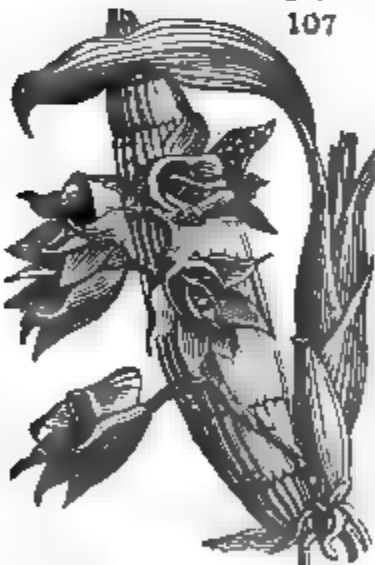


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Botanical Cabinet. By Messrs. Loddiges. In 4to and 8vo Parts, monthly. Large paper, 5s.; small paper, and partially coloured, 2s. 6d.

Part CXXXV. for July, contains

- 1341 to 1350. — *Isorchilus linearis*. — *Acacia hybrida*. — *Erica oppositifolia alba*. — *Catasetum Claveringi*. (fig. 107.) An orchideous epiphyte, from Brazil, by Mr. G. Don, to the Horticultural Society. — *Hyoacymus orientalis*. A hardy perennial plant from Caucasus, introduced a few years since, and valuable as flowering in March and April. Like all hardy flowering plants, it is of low growth. Common culture, and increased by seeds. — *Dracophyllum gracile*. From New Holland. — *Fuchsia excorticata*. From New Zealand. — *Daphne collina*. — *Trillium grandiflorum*. — *Aloe denticulata*.



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Part CXXXVI. for August, contains

- 1351 to 1360. — *Acacia Sophoræ*. Grows freely; forming a good subject for the conservatory, but rather tardy in flowering. — *Ruta albiflora*. An almost hardy, small, shrubby plant, of neat appearance. — *Aloe reticulata*. A beautiful dwarf species, flowering in spring. — *Aotus villosa*; Leguminosæ. From New Holland; well merits cultivation, and flowers in May. — *Erica pallida*. An elegant purple-flowered species, lately introduced from the Cape. — *Ferraria atrata*; Iridæ. (fig. 108.) Flower singular in form and



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colour, several produced in succession from the same spathe; about 6 in. high. Propagated by offsets, which being rarely produced, it is likely to remain a scarce plant. — *Grevillea punicea*; *Proteaceæ*. Colour of the flower extremely rich, and the whole plant very elegant; increased by cuttings in an airy green-house, in sandy peat. — *Atragène sibírica*. A suitable climber for a wall, &c., and grows in good garden soil. — *Streptanthèra elegans*. A beautiful bulbous plant of the *Ixia* family; thrives in peat soil, in a narrow border, close to the front wall of a hot-house. — *Burchardia polystachya*; *Malpighiaceæ*. Very ornamental to the stove; increased by cuttings.

The British Flower-Garden. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s.

No. LXV. for July, contains

257 to 260. — *Cummingia* (Lady Gordon Cumming, much attached to the science of botany) *campanulata*; *Asphodèleæ*. (fig. 109. a) A bulb with grassy leaves, and elegant blue flowers, deserving a place in every collection. Introduced from Chile a few years ago, and figured in the *Botanical Magazine* as a species of *Conanthera*, a genus which differs from *Cummingia* as *Hyacinthus* does from *Scilla*, in having a deeply divided perianthium. Culture like that of *Tigridia pavonia*. — *Salpiglossis* (*salpiger*, a trumpet, *glossa*, a tongue; flowers trumpet-shaped, style tongue-shaped) *picta*; *Solanææ*. (fig. 109. b) A magnificent herbaceous plant, from Chile, to P. Neill, Esq., of Edinburgh. "We believe it will prove perennial, and may be cultivated in the open border with a little protection in winter." Readily increased by young cuttings, under a hand-glass, or in a shady border without glass. — *Muscari pallens*. — *Magnolia Soulangiana*.

No. LXVI. for August, contains

261 to 264. — *Lupinus tomentosus*; *Leguminosæ Papilionacæ Phaseoleæ*. A handsome perennial lupine from Peru, of easy culture in the open border. — *Nicotiana noctiflora*; *Solanææ*. Half hardy, and apparently perennial, "a great acquisition to our gardens, as its flowers are very sweet-scented as well as beautiful." — *Rhododendron Gowenianum*, *Ericæ Rhodoracææ*. "A handsome, smallish, branching shrub," of hybrid origin, being produced from seed of an *Azalea*, which had been fertilised with the pollen of a *Rhododendron*. — *Piptanthus* (*pipto*, to fall, *anthos*, a flower; flowers fall off altogether, calyx, petals, and stamens) *nepalensis*; *Leguminosæ Papilionacæ Sophorææ*. "A handsome, upright, branching, evergreen shrub," with ternate bright green leaves and yellow flowers.

Flora Australásica. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s. coloured; 2s. plain.

No. XIV. for July, contains

53 to 56. — *Dryandra formosa*; 5 and 1, and *Proteaceæ*. A stout, upright, bushy, evergreen shrub, well clothed with branches and leaves; the



flowers in terminal heads, of a rich orangy brown, and scented like ripe apricots. From the south-west coast of New Holland, by Mr. W. Baxter, C.M.H.S., to Mr. J. B. Mackay, F.L.S. H.S., of the Clapton nursery. The figure from the only plant which has yet flowered, sent by Mr. P. M'Arthur, from the collection under his care, in the splendid conservatory (fig. 50., Vol. II p. 170.) of A. Baring, Esq. M.P., at the Grange, Hampshire. "Ripened cuttings taken off at a joint, and planted in sand, under a hand-glass, in a cool situation, without shortening their leaves, will root readily." — *Billardiera scandens*; Pittosporæ. (fig. 110.) A slightly climbing, small, evergreen shrub, well adapted for a conservatory or green-house, where it is not wanted to attain a great height; "it is one of the very few eatable fruits that are natives of New Holland, and is, of itself, not very agreeable to the palate. Loam and peat, and cuttings in sand, under bell-glasses. — *Grevillea acuminata*; Proteaceæ. A handsome, dwarf, bushy, evergreen shrub. The figure from a plant in the rich and superiorly cultivated collection of Mr. Knight, of the King's Road. — *Banksia dryandroides*; 4 and 1, and Proteaceæ. A handsome, stout, upright, evergreen shrub, with long pinnatifid leaves, glossy green above, and ferruginous or greyish white underneath. This is another of the new species of Proteaceæ sent to Mr. Mackay by Mr. Baxter, and it has flowered, for the first time in Europe, in the superb collection of the Comtesse de Vandes, at Bayswater, under the care and skill of Mr. Campbell.



With this number, a titlepage and index are given, so that the volume may be considered as completed; and the work, we believe, will be discontinued for the present. We have already expressed our favourable opinion of it, and have only to add, that whether as a collection of new, rare, beautiful, and what is of some consequence, half hardy, plants, or as a book of elegant drawings and correct botanical descriptions, it is well worth purchasing.

Cistineæ. By Robert Sweet, F.L.S. &c. In 8vo Numbers, every alternate Month. 3s.

No. XIX. for July, contains

73 to 76. — *Helianthemum barbatum* and *pulchellum*. — *Cistus rotundifolius*. "A pretty, dwarf, very bushy, upright, evergreen shrub, densely crowded with hairy branches, with purple flowers." — *Helianthemum eriosépalon*.

The Botanic Garden. By B. Maund, F.L.S. &c. In small 4to Numbers, monthly. Large paper, 1s. 6d.; small paper, 1s.

No. XLIII. for July, contains

Kaulfussia amelloides. (fig. 111.) A beautiful half-hardy annual, with deep flowers, from the Cape, not yet common, though introduced in 1819. — *Zinnia elegans*. An annual, with deep red flowers of considerable beauty: the flowers are not numerous, but of long duration. — *Andrómæda coriacea*. "This species of *Andrómæda* constitutes an interesting ornament amongst the lesser American shrubs, and, from its flowers being produced at a somewhat later period, is advantageously mixed with the *Lédums*, *Kálmias*, *Azàleas*, &c. It retains its foliage during winter, and blossoms about Mid-

summer, yielding flowers that are more showy than most others of this genus.

Hyoscyamus niger. A biennial, interesting as a medicinal plant, and otherwise worthy of cultivation. Its flowers have not much gaiety of character, but they possess an exquisite delicacy of pencilling, which compensates for the absence of brilliant colouring. The capsules continue on the stem during the winter, and, as they are covered with a tolerably permanent lid, the seed is preserved and scattered at various seasons, much to the increase of chances, that no unpropitious circumstances can destroy all its future progeny. Its baneful effects are best counteracted by a powerful emetic, and by drinking largely of the vegetable acids. It is principally given as a substitute for opium, where the latter sedative is observed to disagree with the habit, and in cases where the constipating properties of opium render it improper, a quality from which the henbane is free.



The Florist's Guide and Cultivator's Directory, &c. By Robert Sweet, F.L.S. &c. In 8vo Numbers, monthly. 3s. coloured; 2s. plain.

No. XIII. for July, contains

49 to 52. — Fletcher's Defiance Polyanthus, a very pretty variety, thriving better in the vicinity of London than some of the other sorts, from the collection of W. Strong, Esq. — Pucelle d'Orleans Tulip. A handsome variety of the Rose class, from the choice collection of Richard Percival, jun., Esq., at Highbury Park, Islington, where it is grown in the middle row of his tulip bed. — Porcelaine Sceptre Hyacinth. — Pollit's Highland Boy Auricula, from the choice collection of L. Weltge, Esq., at Hammersmith.

No. XIV. for August, contains

53 to 56. — Semplon Tulip, a very strong-growing variety, with very large flowers, striped and marked with purple and velvet, from the collection of W. Strong, Esq. of Shepherd's Bush. The following valuable directions are given for raising tulips from seed:—"As we presume many of our subscribers are now saving seeds of their choicest flowers that have been fertilised with the pollen of different varieties, it may not be amiss, in this place, to give our opinion of the best method of sowing and treating it, so as to encourage the plants to produce bloom much sooner than the time that is generally allowed them; we have no doubt but, with proper management, they will bloom when about three years old from the seed; and, if it could be possible to keep them in continual growth, they would, most probably, flower a year sooner. The seed, when ripe, should be cut, and laid to dry in the capsules at first. As soon as they are perfectly dry, they should be sown as thick as you please, in pans or flat pots, in a light sandy soil; these must be placed in a frame, or some other situation where they will not become sodden with too much wet in winter, but, at the same time, should be kept moderately moist. In the spring they will make their appearance; and, when two or three inches high, should be pricked off in a light sandy soil, either in pots or in a bed. When planted out so young, they will not miss their removal, but will continue to grow, if kept regularly moist, and, with a little protection, will probably continue to grow till they become of a flowering size; or, if the leaves die away, the bulbs should not be dried, but should be set growing again as soon as possible, the bulbs to be transplanted when in a dormant state. By this mode of treatment, we have flowered bulbs of the genus *Amaryllis* at one year old, and nearly all the sorts at two years' old, sowing the seed as soon as ripe, and pricking them

off singly, in small pots, as soon as up; then placing them in a hot-bed frame, and, as the pots fill with roots, shifting them in larger ones, keeping them in continual growth till they flower." — Rose Incomparable *Ranunculus*. Handsomely-formed flowers, white edged with bright rose, inclining to crimson. From the collection of Mr. Jabez Gibson, of Saffron Walden. — Dry's Earl of Uxbridge Pink. Large, and very handsome. From the collection of Mr. Hogg, of Paddington. — Rose Juno Tulip. Handsomely cupped, but small. From the collection of J. P. Burnard, Esq., of Formosa Cottage, Holloway, who possesses a choice collection of tulips.

Medical Botany, &c. By John Stephenson, M.D., and James Morss Churchill, Esq., Surgeon. In 8vo Numbers, monthly. 3s. 6d.

No. XIX. for July, contains

73 to 76. — *Pinus sylvestris*, *P. balsamea*, *P. Abies*, and *P. Larix*. Most species of *Pinus* may be made to yield turpentine, though the true turpentine is obtained from *Pistacia Terebinthus*, and is known in the shops as Cyprus and Chio turpentine.

Common turpentine is the produce of the Scotch pine. Trees with the thickest bark, and which are most exposed to the sun, generally yield the most turpentine; a wound is made in the tree 3 in. square, by 1 in. deep. The first incision is made near the foot of the tree, and as the resin flows most abundantly in hot weather, the operations are begun about the end of May, and continued to September. The juice is received into holes dug in the ground, is afterwards taken out with iron ladles, poured into pails, and removed to a hollow trunk, capacious enough to hold three or four barrels. This, though inferior to that of the *Pistacia*, larch, and silver fir, is too often substituted for the others by druggists. — *Essential oil of turpentine* is obtained by distillation. — *Common resin* is the residuum of the process for obtaining the essential oil. — *Tar* is obtained from the roots and other parts of old trees by a sort of *distillatio per descensum*. It differs from the native resinous juice in having acquired an empyreumatic quality from the action of fire; and in containing the saline and mucilaginous parts of the tree, mixed with the extractive and the oily. Tar, imported from the Baltic, is the produce of the Scotch pine, but that from America is chiefly obtained from the *Pinus australis*.

The substances above are officinal; but, as the produce of *Pinus sylvestris*, we have also: —

1. *Pitch*, which is made by melting coarse hard resin, with an equal quantity of tar, in large copper vessels.

2. *Lampblack*, to obtain which, a sort of box is made, nicely closed in every part, with the exception of some holes in the top, which are covered with a kind of linen cone. At a little distance from the box a furnace is constructed, with a very small mouth, and the inferior part communicating with the inside of the box by a horizontal chimney. Into this furnace are put the dregs and coarser parts left in the preparation of tar; and in proportion to the consumption of these, a supply is kept up, so as to furnish a constant draught of smoke into the box. The smoke goes chiefly into the cone, where it deposits its soot, or lampblack, which is employed almost exclusively in printing and dying.

3. *Bark Bread*. We are informed by Linnæus, that the Laplanders eat, during a great part of winter, a preparation of the inner bark of the pine, which they call *bark bread*. This substance is made in the following manner, viz. after a selection of the tallest and least ramose trees (for the dwarf branching ones contain too much resinous juice), the dry, scaly, external bark is carefully taken off, and the soft, white, fibrous matter collected and dried. The time of the year chosen for this process is when the alburnum is soft, and easily separates from the wood by gentle pulling, otherwise too

much labour would be required. To convert it to use, it is slowly baked on live coals, and being thus rendered porous and hard, is ground into powder, which is kneaded with water into cakes, and baked in an oven. The Siberian ermine hunters, when their yeast, which they carry with them, to make their *quass*, is spoiled by the cold, digest the inner bark of the pine, with water, over the fire, during an hour, mix it with their rye-meal, bury the dough in the snow, and, after 12 hours, find the ferment ready prepared on the subsiding fæces.

Canada Balsam is the produce of the Balm of Gilead Fir, and differs little from the celebrated Balm of Gilead, which is extracted from *Amýris gileadensis*.

The *Thus*, or common *frankincense* of the shops, is resin which spontaneously exudes in drops from the common spruce fir. Some writers, observes Dr. Maton, are of opinion, that the genuine frankincense is obtained from *Juniperus lycia*, and is the Olibanum of our shops; but it is more probable that it is only what exudes spontaneously from the spruce fir.

Burgundy Pitch is prepared from the resinous juice of the common spruce, which exudes from incisions made in the bark. This soon concretes in the air, is collected, and afterwards melted, with water, in a cauldron over a slow fire, strained by pressure, and thus prepared for sale.

The best *Turpentine*, after that of *Pistacia Terebínthus*, and also the *Venice turpentine*, are made from the larch. Holes are bored in the trees in May, from which the juice runs into troughs.

Besides the Venice turpentine, the larch also yields the *Gummi Orenburgense* of the Russian shops, which is described as a good substitute for gum arabic. The mode in which this substance is obtained is remarkable. It sometimes happens that whole forests of larch are accidentally consumed by fire. During the combustion of the medullary part of the trunks, a gum issues forth, which is collected by the natives, for the purpose, not only of rendering their bows glutinous, but also of being eaten as a delicacy. It is also supposed to act as antiscorbutic, and a useful astringent for the gums.

The *Manna of the Larch* is thus procured. About the month of June, when the sap of the tree is most luxuriant, it produces small white drops, of a sweet glutinous matter, like Calabrian manna, which are collected by the peasants early in the morning before the sun dissipates them. It is inferior as a drug, to that of the Calabrian ash.

The important uses of these different substances in medicine and in the arts, are well known.

No. XX. for August, contains

76 to 79. — *Acácia Cátechu*, from the mountainous districts of Hindoostan, and used in medicine, in the form of extract, in disorders in which a mild, unirritating, powerful astringent is required. In the East it is used with the betel nut for chewing. — *Acácia vèra*, a shrub from Upper Egypt, which furnishes the gum arabic of the shops. “The purest and finest gum arabic is brought in caravans to Cairo, by the Arabs of the country round Mounts Tor and Sinai, who bring it from this distance on the backs of camels, sown up in bags, and often adulterated with sand and other matters. The gum exudes spontaneously from the bark of the trunk and branches of the tree, in a soft, nearly fluid state, and hardens by exposure to the air, or heat of the sun. It begins to flow in December, immediately after the rainy season, near the flowering time of the tree. Afterwards, as the weather becomes hotter, incisions are made through the bark, to assist the transudation of the juice.

Mercurialis perennis. A native perennial, common in shady groves and hedges, with a very nauseous taste, a heavy disagreeable smell, and considered poisonous. — *Mercurialis ánnua* is also a very common native. It is mucilaginous, and was formerly employed in fomentations. It may be eaten as spinach; but, if used in considerable quantities, it operates as a cathartic.

The Pomological Magazine. In 8vo Numbers, monthly. 5s. coloured; 3s. 6d. plain.

No. IX. for July, contains

33. *The Imperatrice Plum.* One of the best for keeping late in the season; begins to shrivel in October, but will keep, and the flavour improve, till the middle of December.

34. *The Hawthornden Apple.* "Reckoned the best apple in Scotland [!], but it is apt to canker in that country."

35. *The Gansel's Bergamot Pear.* "Raised by a Lieutenant-General Gansel, from seed of the Autumn Bergamot, at Donneland Hall, near Colchester, about the middle of the last century. It does not bear well as a standard, but yields a tolerably certain crop on an east or south-east wall; in which situation it ripens well. In the middle of November it comes into eating, and continues in perfection about a month.

36. *The Margil Apple.* Excellent; ranks near the Ribston Pippin; long known in the gardens of this country.

No. X. for August, contains

37. *The Lemon Pippin Apple.* A good hardy variety, coming into eating in the end of October, and keeping till March or April. One of the most valuable orchard fruits we possess.

38. *The White Imperatrice Plum.* Handsome, useful, very different from the common Imperatrice. It ripens on a west wall about the beginning of September, but does not shrivel or keep well.

39. *The Golden Harvey Apple.* "Perhaps the very best of all our fruits;" a great bearer, ripening in December, and keeping till May. "Its flavour is more rich and agreeable than that of any other variety of apple. No garden, however small, should be without it. It is much esteemed as a cider fruit, on account of the quantity of sugar it contains. The cider made from it is very strong, but not rich; for which reason it has acquired the name of the Brandy Apple. The specific gravity of its juice is said, in the *Pomona Herefordiensis*, to be 1085.

40. *White Nectarine.* Ripens in August and September, and is remarkable for its fine rich flavour and abundant juice.

Fleming's British Farmer's Magazine, exclusively devoted to Agriculture and Rural Affairs. In 8vo Numbers, quarterly. 4s.

No. VIII. for August, contains

A valuable paper, by W. Aiton, Esq., on Moss as a cultivated Soil. Draining is one of the first improvements in the culture of moss: "till that be done, every attempt to render moss productive will only be labour lost." But a great error may be committed in the manner of draining; and it is for the purpose of warning our readers against this error, that we have directed their attention to this paper. "Wherever a spring rises in or under the moss strata, the water must be carried off by an open or a covered drain, as local circumstances may require." After an outlet is made for the springs, all that is necessary is to form ridges and furrows, so as to prevent water from standing on any part of the surface. "This is all the draining that any moss whatever requires, merely what will draw off the water from its surface; and it is all the draining that can be made on moss with effect. Some, perceiving that moss was wet and soft, have imagined that these defects could be cured by more complete draining; and, accordingly, they have drained, under-drained, formed wedge drains, intersecting each other at every few yards, some of them filled with wood, others with stones, and some with sod; while others have written fluently on the modes of forming such drains. But the whole is so much labour thrown away, as all draining, more than forming the ridges and furrows in the manner men-

tioned above, can have no effect ; or, if it had such effect, would be only injurious. Moss earth is, like clay, so very compact and close in the pores, that water cannot filter or percolate through it, even for a few inches. A tank formed in solid moss will hold water like a cask ; and no species of under-draining whatever will in the least dry the solid moss a single yard from the drain. But if under-draining were to have the effect wished for by these improvers, it would render the moss entirely useless as a productive soil ; for whenever moss earth is, either by nature or by art, rendered too dry, or drier than the furrows that have been mentioned above would make it, such further dryness, instead of benefiting the moss, would render it incapable of yielding grain or grass. To make moss productive, it must be kept in a medium state, between wet and dry."

Dr. Anderson had correct ideas as to the effect of drought on an improved soil of moss. When Mr. Roscoe approved the Trafford moss, he at first cut very deep drains ; but, after having read Mr. Aiton's treatise, changed his plan, and accomplished his object with less expense and in less time, by cutting small drains, about a foot deep. Mr. Aiton concludes : — " With regard to draining moss, I repeat, that it must be relieved, as a primary operation, of all stagnant water. That may be done to good purpose by opening drains, or water-courses, on the surface, of not more than a foot wide, and one foot deep ; and that larger drains, except for fences, are unnecessary ; while under-draining is merely labour lost. Moss, in its natural condition, is no doubt too wet ; but whenever the soil is formed into broad ridges, with a furrow between each, and the moss begun to be laboured and converted into soil, the difficulty is not how to make it dry, but how to keep it from becoming too dry."

" Manuring of moss land must be conducted on similar principles with that of other soil. Every thing that can help to remedy the defects of the soil, or that contains, and can impart to it, the food of plants, must operate as manure. If clay or earth is applied to a sandy soil, or to one of moss, or if sand or moss is applied to clay, all of them operate as manure. On these principles, clay, earth, sand, till, or even rotten rock, or any thing that the weather can dissolve and reduce to earth, will act as an efficient manure to moss ground ; not by communicating any enriching substance to the moss, but by mending its mechanical arrangement, and so far forming it into a better soil. Such earthy substances insinuate themselves among the vegetable fibres of the moss earth, render the soil more solid, and promote the decomposition of the soil, which yields food to new plants."

Dung is the most valuable manure for moss. Lime operates as manure to moss, not by communicating to the soil any enriching quality, " but it acts merely as a stimulant, and accelerates the decomposition and putrefaction of vegetable matter. . . . The alkali of the lime attaches the acid that is in the moss ; an effervescence follows, till the alkali in the lime and the acid in the moss are both destroyed, and a neutral salt is formed from them, which is favourable to the growth of plants ; and the acid being extracted from the moss by the caustic qualities of the lime, the antiseptic qualities of the moss being so far overcome, the moss yields more readily to putrefaction." Burning part of the moss, in order to manure the rest, produces one good crop, and a second inferior one ; it is not to be recommended unless where the surface is very rough. The crops suited to a moss soil are grain, roots, and grasses.

In a Life of Bakewell, it is conjectured (p. 321.) that the idea of his having bred in-and-in might have originated in an attempt, on his part, to protect his interests by an evasion. " He had, to a certain extent, bred in-and-in ; and while the question was proposed, probably with much latitude, he could reply in favour of that system, without a violation of truth ; but had he been asked how long he could proceed in that course, another answer would probably have been given. But the question was not, ' Mr. Bakewell, how

am I to produce, and continue to produce, such animals?' It was, probably, 'how is the animal before us bred?' The answer, if only the slightest degree of affinity existed between sire and dam, would be 'in-and-in.' Thus Mr. Bakewell would secure his interest, and promote an independent use of his stock."

We cannot conceive the idea of a character like Mr. Bakewell "protecting his interests by an evasion," or exercising a mental reservation of any kind, and especially for selfish purposes; and we must say, we regret exceedingly to find the insinuation made at a time when it cannot be answered by Mr. Bakewell or his personal friends. We think it much more likely that he really believed in in-and-in breeding. While we say this, let us not be thought to be its advocates; we entirely agree with the writer of the biography, that it is a practice against which enlarged and enlightened experience strongly decides.

In the *News of Agriculture and Rural Economy*, notice is taken of the Society of Arts having given the silver Ceres medal, for the introduction of the roots of the *Stachys palustris* as an esculent vegetable. This *Stachys* is a labiate, woolly-leaved, hairy, mint-like plant, found in marshes and in corn fields, with white creeping roots, which, at the close of the summer, become tuberous, and as thick as the little finger. Swine are said to be fond of the roots.

Various papers on the Corn Laws, the state of the British Farmer, &c., are not in our way, but will be found interesting to those whom they concern.

Anon.: Practical Instructions for the Formation and Culture of the Tree Rose. London. 12mo, pp. 91, wood-cuts. 3s. 6d.

This is an exceedingly well got up little book. The author was induced to collect together the results of his own experience, "from the observation of the frequent failure of common gardeners, who usually act from practice alone, and therefore do not always vary their operations as often as the changeableness of the season and the nature of the situation in reality require." He has read every work on the subject, but writes chiefly from his own experience, giving three reasons for entering into competition with practical men: 1. occupation and amusement; 2. saving of expense; and 3. improving the object produced. The amateur operator must provide himself with the following articles: budding-knife, 5s.; letters and figures to label, 25s.; a shoemaker's nipping-punch, 2s. 6d.; steel plyers and nippers, 2s. 6d.; bundle of copper wire, 1s.; piece of thin sheet lead, 3 lb. to the foot, 1s.

Procure and plant stocks in November; age is of less consequence than that they be free from knots. Free-growing roses should be planted on free-growing stocks. The most desirable heights are, 4 ft., 3 ft., 2 ft. 6 in., 2 ft., 1 ft. 6 in., and 1 ft. Cut over the stock at an angle of 50°, a quarter of an inch above the bud; if you cut at a greater distance, so as to produce a more slanting section, the wound will not heal so readily. Cover the wound immediately with loam or grafting clay, thus composed: five eighths black pitch, one eighth resin, one eighth tallow, and one eighth bees' wax; or one half bees' wax, and one half pitch; or, 1 lb. white Burgundy pitch, ¼ lb. black pitch, ¼ lb. resin, ¼ lb. bees' wax, 2 oz. tallow, 1 oz. pounded mastic, and 1 oz. saltpetre. Warm either of these mixtures in a small pipkin, and leave it to melt for three quarters of an hour; when melted, and not too hot, dip the extreme point of each stock in it, so as to leave the thickness of two or three sheets of paper of mixture at the end; but, if your stocks are planted, use a brush.

When the stocks begin to push in March, rub off all the buds but two, three, or more, well placed, close to the top, so as to indicate a handsome

head. On the 1st of July move off the thorns from the places in the young shoots, where you intend inserting buds. Bud from the beginning to the end of August, unless from severe drought the bark will not rise. To aid this, in dry seasons, water at the root for several days previous to commencing the operation. Prefer mornings and evenings, and avoid a drying northerly or easterly wind, which dries up all the tender parts exposed to it. The common mode of budding in England, is called, by the French, budding *à l'œil dormant*; budding *à l'œil poussant* is practised at the end of May, sometimes with common roses, which it is desirable to increase as soon as possible, but more frequently with Chinese roses, Noisettes, Banksias, and the like. Of course, it is the autumnal bud and bark which are taken.

Free-growing and slow-growing roses should not be placed on the same stock. In taking off the bud from the scion, separate the little segment of wood which comes off with it; if this is done with difficulty, "the buds, upon it must be rejected, though some might by a possibility succeed." (See Vol. I. p. 329.) The prepared bud, with a piece of bark above and below it, is called the shield; when inserted in the incision on the stock, it is cut across at the top, so as to fit exactly to the cross cut in the bark of the stock. The first junction takes place at the cross cuts, by the sap in its descent oozing out there, and joining the inner bark of the two cross cuts together, and therefore great care must be taken to fit the shield at that place very exactly to the stock. As soon as a shoot is cut off for the purpose of supplying buds, cut off the leaves, to prevent drying by their evaporation: this is more especially necessary in sending shoots for budding to a distance. The bass ligature should be pretty tight, and a laurel leaf may be slightly tied in, in such a way as to form an arch over the bud, to defend it from the sun and rain, both of which are as prejudicial as the air.

Budding may be performed on the body of the stock, especially when the bark is not very hard. Not one bud in ten ought to fail. In general two are enough for a tree. The ligatures may be removed, in moist seasons after a month, but in hot weather not for six weeks at least.

Tree roses are pruned in the first week of March; "leave a couple of buds on every shoot of last year's growth, or three, at most, upon a very strong one. . . . If the tree be not pruned at all, it will lose its shape entirely in a single year, afford little or no bloom the next, and eventually straggle to death." Cut about the thickness of a sixpence above the bud, and at an angle of 45°, i. e. so as to form such a slant as would be made by dividing a square from angle to angle. "Cutting out old wood should always take place where it can," the desirable point being to keep young shoots direct from the old head, or from two or three strong branches. "This principle well applied, will always keep the trees in bounds; but as this requires judgment, and cannot well be explained in writing, take a lesson upon the subject, the first convenient opportunity, from a scientific gardener." (p. 65.)

In planting out tree roses, they never look well in a clump; and, therefore, single plants, or some sort of line, is preferable; or you may place different heights in succession, so as to look like a sloping bank. A three feet standard is in good keeping with the head it carries, and is the proper height in confined situations; distant from the eye, the height may be greater.

To graft the rose, collect scions in March, stick them in a lump of clay 1 in. deep; press the clay firmly to them; then put the lump of clay in a pot-ful of earth, leaving the shoots out, and cutting off their points, if any are growing, to prevent exhaustion; and set them in any shed or out-house, neither very dry nor very damp, for three weeks. The object of laying by the scions thus, is, that the stock may be the forwardest. Graft in the cleft manner. (Vol. II. p. 192.) "In the event of your having neglected to procure stocks, the operation of grafting [or budding] may be performed equally

well upon plants in a neighbouring hedge, and those which succeed can be transferred to the garden at leisure." (p. 82.) The great enemies to the rose are the Aphides; the readiest method to remove which is, to brush them off with a common painter's brush.

We have thus given the essence of this little work, as far as the practical gardener is concerned; but the amateur who is not fully master of the arts of budding and grafting, cannot do better than have recourse to the book itself; for in few or none is the process of budding rendered so intelligible by description and engravings. The work, altogether, is admirably adapted for the amateur; and we would strongly recommend it to such as practise horticulture for their amusement, and derive satisfaction from gradually improving their grounds, by adding to the number of ornamental shrubs.

Tyso, the Rev. *Joseph*, of Wallingford in Berkshire: A Select Catalogue of choice *Ranunculuses*, grown by the author, and sold for benevolent purposes. One folio leaf, for distribution as a letter.

This is the best descriptive catalogue of *Ranunculuses* which we have seen, the following distinctive marks being placed after the different names: *a.* ash, *b.* buff, *c.* crimson, *co.* coffee-coloured, *d.* dark, *e.* edged, *g.* grey, *l.* light, *m.* mottled, *o.* orange, *ol.* olive, *p.* purple, *r.* red, *ro.* rose, *s.* scarlet, *ss.* shaded self, *sp.* spotted, *st.* striped, *w.* white, *y.* yellow, *d. r.* dark red, *l. m.* light mottled, *w. e.* white-edged, *y. e.* yellow-edged, *w. st.* white-striped, *co. st.* coffee-striped, *r. st.* red-striped, *w. sp.* white spot, *y. st.* yellow-striped, *y. sp.* yellow spot. Assortments of 100 roots are sold at different prices, from 5s. to 5l.; and seeds saved from named flowers, at from 1s. to 5s. per paper. The number of varieties is stated to be about 500. What the benevolent purposes are for which they are to be sold, is not mentioned; but it is due to the professional character of the author, to conclude that his charity will be discriminating, and we should be sorry not, most heartily, to wish that the best success may attend his exertions.

Annales de la Société d'Horticulture de Paris, &c. Paris. In 8vo Livraisons, monthly. 15 fr. in Paris, 18 fr. in London, for 12 Livraisons (one year). Reviewed by J. M.

Liv. VII. for March, contains

1. *Mémoires, Rapports.* — Of the Chinese melon, and of a singular fact observed on one of its fruit, with physiological remarks on hybridisation; by M. Sageret. An account of some melons cultivated by the author, one of which, he supposes, is the true Chinese, and describes as a very good fruit. His experience in their cultivation has shown that melons are particularly liable to sport into varieties of each other; and even liable to be stained by the qualities of the cucumber. One of his melon plants bore two kinds of fruit, and both different from that which yielded the seed. He thinks that the same seed may contain the characteristics of several males, and that these different essences may be developed distinctly on the plant produced by this compound seed. He also thinks that different properties may be conveyed along the branches by accidental or artificial adhesion. — Some observations on the management of Fruit Trees in the west of France; by M. Oscar Leclerc. (See our notice of Liv. VIII., p. 384.)

2. *Notices, Analyses, &c.* — Remarks on Sea-kale; by M. le Chevalier Soulange Bodin, who gives its history and method of cultivation, as practised in England. — Observations on the cultivation of Chinese Rice in Europe; by M. Fontaneilles, D.M. This report speaks of the trials which have been made to grow the dry rice of China in Italy; and the writer thinks that, in time, an advantageous cultivation of it may be introduced in France.

3. *Mélanges et Nouvelles.* — Of the different *Species* of the Grubs called in France Hanneton. There are, it is said, two species of the Cockchaffer (*Melolontha vulgaris*). The largest is covered with whitish powder, and is

the least numerous. One is called *Melolontha hippocastani*, or horse-chestnut cockchaffer, and which does not appear in the same years with the *M. vulgaris*. Other destructive species, as the *M. fùlo*, *villòsa*, *pilòsa*, *solstitiàlis*, *æquinotiàlis*, are very numerous, and do much damage, which is laid to the charge of the common one. The larva of the *solstitiàlis*, hoary beetle, or chaffer, devours the roots of dahlias. — Extract of a letter from M. J. Walner, of Geneva, to the secretary, informing him that the *Prímula sinénsis* is naturalised to the climate of that place, and bears the winter without injury. — Facts relative to the naturalisation of plants. M. Boursault reported at a Meeting of the Society, held on the 6th February last, that he had raised the *Laúrus Cinnamòmum* in the open air, and nursed the young plants awhile in the conservatory, but has sent them to Toulon to give them a better chance of succeeding. The *Cratægus glàbra*, he also finds, does not need the temperature of a hot-house, nor does the *Camellia*. — Notice of the Royal Society of Agriculture and Botany of Ghent, with a list of flowering plants exhibited in their hall, in the beginning of February last. Medals were awarded to Messrs. Sweemer and Verleeuwen of Ghent. The plants most remarkable for beauty of flowers were, *Asclèpias tuberòsa*, *Crìnum amàbile*, *Cypripèdium spectàbile*, and *Strelítzia júncea*. Many other Chinese, Botany Bay, and tropical plants received distinguished commendation; and in the hall was placed the *funeral* cypress, as a mark of respect to the deceased M. J. Thouin. — Calendar of Work to be done in the different departments of the garden, during the month of April. In the directions for the management of fruit trees, the canker is said to be cured by an application of cow-dung and clay. — Prices-current of vegetables in Paris. — Minutes of Society's Meetings, &c.

Liv. VIII. for April, contains

1. *Mémoires, Rapports*. — Some observations on the cultivation of Fruit Trees, in part of the west of France; by M. Oscar Leclerc. M. Leclerc points out the defective management in training fruit trees *à la quenouille* (distaff fashion). He says there is much ingenuity required in the process, and that, in many cases, it is attempted without success; but, where the soil, kind of tree, its state of health, and management, are all proper, it answers well, and is worthy of imitation. Pear and apple trees intended to be trained on this plan, are worked on the *least free* stocks, to obtain moderate growth. A principal leading shoot is chosen to form the upright stem; this is frequently stopped, or cut down, to produce numerous side shoots. By such management the tree becomes, in a few years, a perfect cone in figure, furnished with numerous branchlets, from bottom to top; which, from their position checking the natural luxuriance, are, at an early stage, thrown into the desired bearing state. A tree may be trained in this manner to any convenient height. Its merit consists in requiring but little space, producing but little shade, exposing the bearing branches all round to the air and light, and protecting the fruit from the action of violent winds. When a tree is imperfectly supplied with bearing wood, buds or grafts may be put on, to make up deficiencies, or dormant buds started into vigour by supercision. When a distaff-trained tree is worn out, it may be cut in, to renew its vigour; but this is the last effort of nature, in consequence of the last resource of art. — Manner of laying down Turf, by M. Colen, jun., gardener to the king, at the palace of E'lysée-Bourbon, &c. M. Colen thinks, green turf may be obtained in France by trenching the ground, freeing it from stones, covering the surface with two or three inches of rich compost, and then laying on the turf. The improved soil, he thinks, will retain moisture sufficient to keep the turf growing all the summer, and, consequently, green.

2. *Notices, Analyses, &c.* — On the Chrysanthemums of China; by M. le Chevalier Soulangé-Bodin. This paper contains almost all that is known of this fashionable tribe of plants. — Notice of the Fruit and Vegetable

Market of Paris ; by M. Masson, Commissary-General. The times when the dainties of all kinds from the gardens arrive, are here put down ; and it appears that, in quantity, quality, and variety, the market is fully supplied. He speaks of apples grown on dwarf trees being brought to market in December, and adds that such cultivation is increasing.

3. *Melanges et Nouvelles.* — Of Trees which escape the attack of the Cockchaffer Grub. These trees, M. Vilmorin states, are the *Morus álba*, *Céltis australis*, *Gledítschia triacánthos*, and the *Ailántus glandulòsa*. The attention of farmers and gardeners is called to this circumstance ; and it is conjectured that an extract from one, some, or all of these trees, may, perhaps, be a useful vermifuge. This is followed by a note on the subject, in which several other trees are mentioned as offensive to the grub ; with suggestions for detecting the essential qualities of the plants, in order to find out some protection for other plants on which they prey. — Melon-beds made of leaves ; by M. Fontaine. Leaves (except those of the beech) are collected in the woods in winter, kept dry, and put into a trench about the beginning of April. Holes, 3 ft. apart, are made along the middle of the bed ; these are filled with compost, to receive the plants previously raised ; stop them in about a fortnight, and soon after cover the whole bed with tiles, which keep in the heat and moisture, and on which they grow and fruit well. — Notice of lectures on the Grafting, &c., of Fruit Trees, delivered in the School of Practical Cultivation, by M. Dalbret, a worthy *élève* of the learned A. Thouin. The precepts and practice inculcated by this master, have already, it is said, given a new face to the gardens under his management. — Notice of Works of Sculpture for the decoration of gardens, after Canova and others, by M. de Bianchi. — Summary of work done in the Fruit, Kitchen, Flower, and Pleasure Gardens in May ; also in hot-houses, beds, &c. — Prices-current of Fruits, Vegetables, &c.

Liv. IX. for May, contains

1. *Mémoires, Rapports, &c.* — Report of Messrs. Michaud, Redouté, l'Abbé Berlèse, and Chevalier Soulange-Bodin, on new plants lately introduced into France by M. Boursault. M. Boursault sent his head-gardener, M. David, in the summer of 1827, to collect plants in London. He executed his mission satisfactorily, by choosing a fine assortment of plants, which were not only new to France, but were even rare in England, having been received at Kew, and other botanical receptacles, only a year or two previously. Among this selection the following are named and shortly described, viz. *Borònia serrulàta*, *Corræ'a pulchélla*, *Grevíllea rosmarinifòlia*, *Pimelèa decussàta*, and *Anthocércis littòrea* and *álbicans*. Many other fine and new plants, introduced into England by the collectors for the royal gardens, and the collector of Mr. Mackay of Clapton, are also noticed. Many compliments are paid to Mr. Mackay for his spirited exertions, and success in having first flowered rare exotics, which are also named. Such as have been lately imported from the Cape of Good Hope, China, North and South America, Nepal, and other parts of India, are also enumerated and described. In fine, the reporters go over the whole collection of M. Boursault, bestowing the highest praise on that distinguished amateur, as well as testifying their unqualified approbation of the great merit of M. David, his gardener. It is also noticed in this report, that it is no longer doubtful that the *Camellia* may be naturalised to the climate of France. — Considerations on the processes employed by Nurserymen for obtaining better sorts of Fruit, and on the means by which Nature appears to accomplish the same result ; by M. Poiteau. The author observes, it is but rarely that improved varieties of our cultivated fruits originate with nurserymen ; they are generally the productions of chance, found in the woods or hedges, or from distant corners of provinces, where the finer sorts are hardly known, and where the sorts they have are mismanaged or neglected. That " like

begets or produces like," has long been considered as a law of nature among animals and some vegetables; but this law is not always uniform, especially among domesticated animals or highly cultivated plants. Yet, on this principle, our nurserymen have acted in their endeavours to obtain better kinds of fruit, by sowing seeds of the best, in the hope that they would raise something still better. It is well known that in this process they have failed. The celebrated Duhamel and his contemporaries failed in the same way. From these and other instances, the author concludes that practitioners are wrong in their expectations of obtaining at once what can only be the result of time. He seems to infer that seedlings, apples or pears, for example, require some years and some cultivation, while they are passing from one stage of their infancy to another, before they can show their inherent qualities.

As proofs of this conjecture, he instances the case of the fruit trees in the United States of America at this time. There, it appears, they have little trouble in procuring superior fruits from seed; and, that they have many excellent new kinds, their lists sufficiently testify. The cause of this he conceives to be, that the first imported fruits, which the colonists received from Europe 300 years ago, were, amidst the bustle of establishing and securing themselves in a new country, lost, from neglect or ignorance of the art of grafting; and that they only had recourse to seeds for perpetuating the kinds. These seedlings have passed through several generations, and are now arrived at that period of their existence in which their inherent qualities are fully developed.

The Americans, M. Poiteau adds, attribute this to another cause, namely, that in proportion as their newly broken up lands are ameliorated by cultivation, &c., so, in like proportion, are the qualities of their fruit. It is a common saying in Virginia, that the fruits of such or such an orchard "begin to change for the better." But this can hardly be admitted; for though such circumstance may improve the quality, it cannot change the physical characters of fruit.

After noticing the fact proved by Mr. Knight, P.H.S., that a crab, fecundated by the pollen of a good fruit, produces better kinds from seed than can be had from seeds of improved fruit, he proceeds to describe the method pursued by the Flemish orchardists to obtain new sorts, and which is given on the authority of M. van Mons. The Belgians, he says, do not prefer the seeds of ameliorated fruit. When the seedlings appear, they do not, as others do, choose such only as are free from spines, having large leaves, and remarkable for the thickness and beauty of their wood; but, on the contrary, such as are most spinous, provided the spines are long, and well furnished with buds or eyes placed near together. This last circumstance they consider as an indication that they will soon show fruit. Individuals having such properties are grafted, apples on paradise, and pears on quince, stocks, to hasten fructification. The first fruit of these grafts are generally bad; but whatever they are, the seeds are carefully saved and sowed. The second generation, treated in like manner, begins to show improvement. Through a third and fourth the process is continued, till they arrive at a point which gives fruit worthy of being preserved. Peaches and apricots, treated in the same way, yield excellent fruit the third generation; apples require four or five, and the pear about six, transitions. This process, concludes M. Poiteau, is only an imitation of that of nature, exemplified in America.

2. *Notices, Analyses, &c.* — Supplementary information respecting the Cultivation of the common Onion; by M. Vilmorin. Two correspondents of M. Vilmorin recommend the Egyptian. (*Encyc. of Gard.*, § 3827.) It produces both seeds and bulbs on its flower stalk, and may be raised from either; but the method of raising from bulbs is to be preferred. As the onion is a biennial, the seeds are sown very thick the first year; and the

produce, being consequently small in size, are replanted in the spring of the second, to produce a crop for use. Such onions as are raised in this way are not only much larger, but of better quality, and yield a more valuable return to the cultivator. — Note upon a hybrid *Daphne*, the produce of an impregnation between the *D. collina* and *D. Cneorum*. By the description of this hybrid, it holds a middle place between the species from which it has originated : it is highly spoken of as an ornamental plant, and especially for its flowering throughout the autumn and winter. There is an accompanying remark, that the species of the genus *Daphne* are easily impregnated with the properties of each other. — Observations on the facility with which the genus *Daphne* produces varieties; by M. Jacques. In the spring of 1823, among some plants of the *Daphne Mezereum*, several plants of *D. Laurèola*, *D. collina*, and *D. Cneorum* were intermixed, while the first was in flower. Seeds of the *Mezereum* were saved and sown. In the spring of 1824 young plants came up; among them were two very different from the others. These were taken particular care of, and flowered rather imperfectly in 1827. One of them is decidedly distinct from any other of the genus; for though it bears the habit of the *D. collina*, which appears to have been the male parent, it differs therefrom, in bearing its flowers in the axils of the leaves. Hence, M. Jacques presumes that it should be distinguished by the name of *D. collina axillaris*. M. Jacques is aware that there exist several hybrid varieties of *Daphne* already in the trade, but is ignorant by what means they were procured; this circumstance, however, sufficiently justifies his assumption, that the genus readily sports into varieties.

3. *Mélanges et Nouvelles*. — Of a new Melon; by M. Cavoleau. The writer saved seeds from the fruit of the Little black Cantaloup des Carmes; they were sown in the open air under bell-glasses, and yielded twenty-five fruits, differing very much from each other in size, colour, and qualities. Thus has been gained a subvariety well worth cultivation. — Destruction of the White Grub; by M. Schulthess, of Zurich. “Following the example of M. Philippe, flower-nurseryman of Lisieux,” says M. Schulthess, “I make bold to communicate my remedy against this pest. It consists of a lie made from the cakes (pains) obtained from oil-mills. The bad smell, and the grease contained in this liquid, infallibly destroy the grub. I apply it by first, with a slender dibber, making holes round, or obliquely under, the plants which are infested; the lie is then poured down the holes, or indiscriminately upon the surface. In either way, if repeated, it is so offensive to the grubs, that they either die or desert the place. These cakes,” adds Mr. Schulthess, “are also an excellent manure for either grass or arable land; and, wherever applied, their rank odour will protect the place from any deposit of eggs.” He begs the Society to make trial of this remedy, and hopes to hear of its success. Mr. Schulthess is director of the botanic garden of Zurich, and, doubtless, speaks from experience. — Destruction of Insects by Lime. M. Philippe, nurseryman and florist, employs pulverised hot lime for destroying insects which prey on seeds, young shoots, and leaves; renewing the application as soon as the former dose loses its strength. — Prizes offered by the Society of Arts, &c., of Paris. Among these the following have some connection with horticulture: — For the best mode of digging or forming wells from springs, for the purposes of irrigation, &c., in plains, where none such exist, three gold medals, worth 500 *fr.* each. For the introduction into France of improved modes of cultivation of any plant useful in agriculture, arts, or manufactures, two prizes of 2000 and 1000 *fr.* For a detailed description of the best and easiest process of any manufacture which could be exercised by the labouring classes in the country, &c., or for any essay treating of this subject, whether generally or particularly, the sums of 3000 and 1500 *fr.*, according to merit respectively. For the invention of a cheap effective hand-mill for shelling dry beans, peas, &c., 1000 *fr.* For the manufacture of the best and cheapest con-

veying or draining pipes, five prizes from 2000 to 3000 *fr.* For the discovery of a composition which may be used as plaster, capable of resisting the action of the air, &c., to answer the purposes of stone, a prize of 2000 *fr.* For the manufacture of paper from the bark of the paper mulberry, 3000 *fr.*

The Imperial and Royal Academy of Florence offer a prize of 3000 *fr.* for the best essay, by way of answer to the following question, viz. "To demonstrate whether the stock receives any modification from the graft, or whether the former exercises any influence on the latter." The theory to be deduced from facts.

Summary of the Work to be done in the Fruit, Kitchen, Flower, and Pleasure Gardens during the month of June. In the first, it is advised, in dressing the vine, if the summer is wet, to ring the strongest branches just before the trees come into flower, as well to prevent the falling of the flowers, as to hasten the ripening of the fruit. In the third, the writer directs that, should earwigs destroy the pinks, they may be destroyed by burned horse-hoofs (*la corne de cheval brûlée*) or the smoke of tobacco. He also observes that, as the cockchaffer now begins to fly, short dung or straw, or short grass mown from the lawn, should be spread out, in order to attract the females; and, at the same time, the borders of American plants, beds of roses, and valuable trees, should be defended from them by a covering of turf-ashes. These matters being removed after the insects have done laying, their eggs are exposed, and may be destroyed. Women and children should also be employed, at this season, to chase and capture the insects. Of the pleasure, or landscape, garden a most animated picture is given, in the style of J. J. Rousseau. In the management of hot-beds, pits, and hot-houses, there is no direction given of any importance to the British gardener. They appear to have a constant dread of hail storms, and always, it seems, have mats ready to guard against them. On the subject of erecting hot-houses, they advise the aspect to be south or south-east, and give the inclination of the rafters about 55 degrees. The width of the house should be 12 or 15 ft., and of any required length; ventilated by openings at the top of the glazed roof, and in the front wall, just above the surface of the ground. The thickest and clearest glass is preferred. The flues are placed under the path in the front of the house, and are made of baked earth, round and substantially thick, receiving and retaining heat better than those composed of any other material. — *J. M.*

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

PARIS, Sept. 18. 1828.—A Meeting of the Horticultural Society of Paris was held yesterday, at which we were present. The forms observed in conducting meetings of the Society, differ from those of the Horticultural Society of London only in two or three particulars of minor importance. The papers presented are not always read by the secretary; but by the writer, if he is a member, and present, or by the friend through whom he has transmitted it to the Society. Discussions on the subjects read, which rarely, or never, take place at the meetings of the Horticultural Society of London, form a leading feature in the meetings of the Horticultural Society of Paris. On the present occasion, there was, first, a great deal of controversial discussion on official matters, such as the number of copies of the *Annales* that ought to be printed; next, a paper was read on the culture of the *Patate*, or sweet potato (*Convólvulus Batatas* Lin.), which gave rise to a variety of observations of considerable interest in a professional and scientific point of view. The author of the paper was not aware that the *Patate* had been, for a long time, cultivated in France, till the Comte Lasteyrie and M. Boursault mentioned the places where they had seen it grown 50 years ago. The writer, M. Loiseleur-Deslongchamps, stated, and the fact was confirmed to us by M. Lacroix, that exposing the tubers to a dry air, like fruit in a fruit-room, had succeeded better with M. Vilmorin than any other method. We mention these, to show in what way discussion becomes really useful. We have seen discussion maintained in a similar manner, and attended by similar results, in the Zoological Club of the Linnean Society of London.

A very interesting account of the anniversary meeting of the Caledonian Horticultural Society, was read by the Chevalier Masclet, partly translated by him from the *Scotsman* (a newspaper held in great esteem here, for its liberal and extended views), and partly from a private communication from Mr. Neill. It was rendered particularly interesting, from the manner in which M. Masclet connected it with the subject of the education and moral improvement of the laborious classes; the great superiority of Scottish gardeners being attributed to their advantages, in this respect, over the gardeners of other countries. In the discussion which arose on this subject, the Comte Lasteyrie, and the Chevaliers Soulange-Bodin and Byerley, noticed, in a general way, the advantages which must necessarily result to the arts in every country, from the better education of those who are the operators in these arts; glanced at the progress which had been made in the diffusion of useful education in France; and strongly urged the necessity and advantages, not only of encouraging practical gardeners of every description, by premiums and other honourable distinctions, to become better cultivators, but to encourage the young men to become reading and thinking workmen,

and the fathers of families to use every exertion to educate their children as the greatest and best service which they could render them. M. Soulangé-Bodin, who is a man of considerable eloquence, made some very impressive observations on the subject, and recommended members of the Society to lend and distribute the *Annales*, and other useful gardening publications, among their neighbours, and to every gardener who could make use of them. M. Boursault used various arguments to prove the beneficial influence of gardening on society generally; and the duty of every enlightened individual to promote a taste for it, as a source of social improvement, and of general amelioration. The Chevalier A. A. du Petit-Thouars made some interesting physiological remarks on the result of an experiment which he had made on the stem of a tree; clearly proving that the sap which returns by the bark and liber has the power of forming wood, without the aid of the alburnum; but the details we reserve till we return, and can illustrate the subject by an engraving.

The articles exhibited were chiefly dahlias, some implements and models of implements, drawings of different varieties of the *Patate*, &c. M. du Petit-Thouars gave away thirty or forty copies of his *Cours de Phytologie*, and some other papers were distributed. Professor Decandolle was present, and Mrs. Yosy. The national characteristic was exhibited towards this lady, who, though an entire stranger, and arriving some time after the Meeting had commenced, was most graciously received, conducted to a seat close to the president, and, when M. du Petit-Thouars proceeded to distribute his pamphlets, he presented the first to Mrs. Yosy.

The most remarkable thing which we have yet seen in the neighbourhood of Paris, is the establishment of M. Soulangé-Bodin, at Fromont. As this is the travelling season with nurserymen, we would recommend all of them who can spare time to visit France, to go thither, and see the art of grafting, and especially the *greffe à la Tschoudi*, pushed further than it has yet been in any establishment either in France or Britain. In rare exotic shrubs, we are inclined to think M. Soulangé-Bodin will soon be able to undersell every nursery in Europe. We shall discuss the subject of this establishment in our next Number, which we intend to devote entirely to giving some account of the tour which we are now making. In the mean time, we set off for Chantilly, Morfontaine, and Ermenonville (which we have not seen since 1815), to try if we can find at these places any thing worthy of laying before our readers; hoping that, as we are now incessantly occupied for their advantage, the great hurry in which this letter has been written, and the impossibility of our seeing a proof of it before it goes to press, will be an excuse for us, both in France and England, for the inaccuracies, or seeming carelessness of expression, which it may contain. — *Cond.*

Signs announcing the Vigour of a Tree. — The branches, especially towards the top, are vigorous; the annual shoots strong and long; the leaves green, vigorous, and thick, principally at the summit, and falling late in autumn; the bark is clear, fine, united, and nearly of the same colour from the foot to the large branches. If at the bottom of the veins, or divisions, of the thick bark, there appear smaller divisions which follow from below upwards, in the direction of the fibres, and live bark be observed at the bottom of these divisions, it is an indication that the tree is very vigorous, and rapidly increasing in size. If some of the lower branches, stifled by others, are yellow, languishing, and even dead, this is an accidental effect, and is no proof of the languor of the tree. Finally, it is a sign of vigour when branches are seen at the summit of the tree rising above the others, and being much longer; but it is to be observed, that all trees with round heads do not throw out branches with equal force.

Signs which indicate that the Tree is mature. — Generally the head of the tree is rounded; the shoots diminish in length each year, and the furthest shoots add to the length of the branches only by the length of the bud;

the leaves are put forth only in spring, and become yellow in autumn before those of vigorous trees, and at this time the lower leaves are greener than the upper. The branches incline towards the horizon, and form angles sometimes of 60° or 70° . These apparent signs, and the thinness of the layer deposited by the sap, indicate that the tree makes but small additions to itself, and now it should be cut down. The nature of the soil should be examined, as well as the kind of tree, to enable a judgment whether the tree should be left to increase still further, or whether it will be more proper to fell it. An exact age cannot be assigned for each species; but it has been observed that an elm, situated in an insulated plantation, may be felled with advantage, when between seventy and eighty years of age.

Signs of Decay in a Tree. — When a tree becomes crowned (i. e., when the upper branches die), it infallibly indicates, especially for isolated trees, that the central wood is undergoing alteration, and the tree passing to decay. When the bark separates from the wood, or when it is divided by separations which pass across it, the tree is in a considerable state of degradation. When the bark is loaded with moss, lichens, or fungi, or is marked with black or red spots, these signs of alteration in the bark justify the suspicions of alteration in the wood within. When sap is seen to flow from clefts in the bark, it is a sign that the trees will soon die. As to wounds or gutterings, these defects may arise from local causes, and are not necessarily the results of old age. (*M. Baudrillac in Biblioth. Phys. Econom.* 1826, p. 13., and in *Jam. Phil. Jour.* Dec. 1827, p. 191.)

GERMANY.

Forest Culture of the Ancients. — M. Pfeil has undertaken a work on the Forest Economy of the Persians, Greeks, and Romans, of which he has published a fragment, in a periodical work, entitled *Krit. Blätter für Forst und Jagdwissenschaft*, vol. ii. The author begins by asking why there does not exist a regular system of forest management in any other country except Germany; the answer to which is, that other countries have not the same want of such a system; some, as Britain, have fossil-coal as fuel; others, as Sweden, are but thinly peopled, and, consequently, the greater part of the surface of the country is underwood. The information collected on the forest culture of the Persians and the Greeks is, as may be expected, very scanty, and of no great interest, especially to those who have seen the history of fruit-trees in the ages of antiquity, (*Encyc. of Gard.*, § 8.) by Dr. Sickler. (*Bul. Un.*)

Paragrêles have been tried in the neighbourhood of Vienna, and the result is said to have been favourable to their use, notwithstanding various reports of a contrary description. (*Ibid.*)

SWITZERLAND.

The Stone Pine (Pinus Cembra). — This is one of the most useful trees in Switzerland; it is, indeed, of very slow growth; one of them, cut down when 19 in. in diameter, displayed 353 concentric circles. Its usual growth is a span in height in six years. The timber of this tree has a most agreeable perfume, and is much used for domestic utensils, as well as for wainscoting rooms. A traveller who visited the chateau of Tarasp was struck, in almost every apartment, with the perfume of this wood: and he remarks it as a surprising and inexplicable circumstance, that the wood should have exhaled this perfume for some centuries in undiminished strength, and without the wood itself having suffered any decrease of weight. But this wood possesses another recommendation, rooms wainscoted with it are not infested with bugs or moths. Its seeds are esteemed a delicacy; they are eaten in great quantities at the winter parties; and on those occasions,

it is said, the female sex display, in extracting them, a high degree of skill, mixed with much innocent gaiety and vivacity. This use of the seeds of the *Pinus Cembra* is not approved of by some, who recommend that common in Siberia; there, according to Pallas, an oil is extracted from the seeds, which is used at table, and might be employed in the manufacture of soup. This species of pine is becoming very rare in the Alps. In order to expedite and secure its growth, and thus remove the principal objection to its cultivation, the seeds should be deposited in a compost of earth, and the clippings and leaves of the pinaster and the larch; or this compost should be put round the roots of the young plants.

The *Larch* is a valuable tree, not only for the purpose of forming manure, but also for its durable timber. This lasts four times longer than pine timber grown at the same elevation. If, therefore, the larch were planted where the pine now grows, it is evident that much forest ground might be gained and applied to pasture. The foliage of these and other trees is carefully collected on the mountains for winter fodder, put into large nets, and then hurled down into the valleys. (*For. Rev. and Cont. Miscel.*, Jan. 1828.)

Schabzieger Cheese is that species of Swiss cheese made by the mountaineers of the Canton of Glaris, and readily distinguished by that peculiar marbled appearance, and aromatic flavour, communicated by the pressed flowers or the bruised seeds of the *Melilotus officinalis*. The practice of mixing the flowers or seeds of plants with cheese, was common among the Romans; thyme was generally used by them. That a similar method was pursued in the middle ages is apparent from an anecdote told of Charlemagne. When travelling without attendants, he arrived at a bishop's palace: it was a fast day, and the bishop, having no fish, was obliged to set cheese before the monarch. Observing some small specks (parsley seed) in it, and mistaking them for rotten parts, he took the trouble of picking them out with his knife. The bishop told him he was throwing away the best parts of the cheese; on this the monarch eat it as it was, and liked it so much, that he ordered the bishop to send him, every year, two cases of such cheese to Aix-la-Chapelle; and, in order that the cheese-merchant might not send cheeses without the seeds, he directed the bishop to cut each in two, and afterwards to fasten the parts by means of a wooden skewer. (*Ibid.*)

HOLLAND AND THE NETHERLANDS.

The *Flesh-coloured Clover* (*Trifolium incarnatum* Lin., Farouche Fr.) has long been cultivated in some of the southern departments of France, and, though an annual, is found very advantageous on dry sandy soils. The Agricultural Society of Nancy have lately recommended it for culture in the province of Lorraine, and a writer in the *Journal des Pays-Bas*, as suitable to many parts of the Netherlands. M. de Dombasle, a theoretical and practical agriculturist in great estimation, sows it, after harvest, in the stubbles, with no other culture than harrowing in. It grows all the winter, and early in spring affords abundant feed for sheep; or, if left till May, it presents a heavy crop for the scythe, and may be used for soiling, or making into hay. A writer in the *Journal des Pays-Bas* says, it is not so liable as common clover, or lucerne, to hove cattle, but this may be doubted. (*Jour. d'Ag. des Pays-Bas*, Oct. and Dec. 1827.)

The *Art of improving the Quality of Fruits* is said to have originated in Belgium; and while the Academy of Munich were doubting the possibility of this description of improvement, and even giving a prize to an essay which maintained the negative side of the question, the art had already made an immense progress in the Netherlands. It is not meant that new fruits were never raised from seed before, but that the business of raising new sorts of fruits from seeds was never before undertaken on scientific principles. Chance has, at all times and in all countries, discovered new sorts of fruits

from seeds which have sprung up accidentally; but it was only in Belgium, towards the latter end of the 18th century, that seedlings were raised in large quantities with reference to this object. The city of Mons made the first attempt, and obtained four exquisite new pears, viz. the Passe Colmar, the Beurrée Rance, the Beurrée Spence (in honour of the celebrated entomologist), the Beurrée d'Hiver, and Les Délices d'Hardenpont. These were raised in the garden of Counsellor Hardenpont. Other amateurs have devoted themselves to the same subject, and obtained several pears of excellent quality; the Bonne de Mons, the Doyenné de Mons, and many more. M. Siart procured La Napoleon; and that learned pomologist, the Abbé Duquesne, raised, among others, the excellent Marie Louise. M. Petit pursued those researches which M. Duquesne was obliged to abandon from ill health and other causes. In Flanders they discovered the incomparable Fondante des Bois (Boscheir); the Capuchins of Louvaine obtained their Pastorale; and the Comte de Colona of Malines, L'Urbaniste. During these times thousands of plants were originated annually at Brussels, with a view of studying the quality of their fruits. The result of the whole has been published by Professor van Mons, in a catalogue dated Louvaine, 1823. (*Messenger des Sciences et des Arts*, livres 1 et 2. 1826, p. 77.)

DENMARK.

Pine-apples grown in Dung Heat. — Last autumn M. Lindegaard tried the experiment of growing some pine plants in dung heat, in a pit made of boards, and surrounded by linings, such as I have seen in Jenkins's nursery in the New Road. The plants have stood our very unfavourable autumn and severe winter remarkably well, and are now, without exception, the finest in Denmark. M. Lindegaard, I believe, had no idea they would have succeeded so well, and I am now convinced we may grow as fine pine-apples here as you do in England. As soon as I get a good situation I hope to prove this. — J. P. Petersen. *Copenhagen, March 28. 1828.*

RUSSIA.

A Scientific Excursion among the Kirghises, and to the Altaic Mountains, by Dr. Ladeburn, professor of botany at Dorpt, is expected to have important results for the study of natural history, and in particular with regard to botany. The professor has collected nearly 500 new plants, of which he has made very accurate drawings. It would be highly desirable to see them published, and that the Russian government, which has already done so much for science, should encourage the publication by a liberal grant, like that afforded by the French government to the splendid works on zoology and botany, forming part of the voyage of Captain Freycinet. Without some such aid, it is to be feared that many enterprises like the present may be lost to science and to the public. (*For. Quar. Rev.*, Nov. 1827, p. 658.)

A very delicate Oil, much used in Russian cookery, is expressed from the seeds of the sunflower, and is prepared by enclosing them in bags, and steeping them in warm water, after which the oil is expressed; this is actually as sweet as butter. (*Scotsman*, Aug 11.)

Culture of the Vine in the Crimea. — The valley of Soudaksk, especially towards the east, is said to be one of the most enchanting scenes in the world, and America, Siberia, Italy, and Caucasus are said to offer nothing more delightful. What adds to its charms and its celebrity, is the success which has there attended the culture of the vine; it is even thought that Russia may, at no distant period, produce wine enough in the Crimea for her own consumption. The first vineyards were planted there in the year 1804, at the suggestion of the celebrated naturalist, Pallas; the situation is named Gadjakol, in the territory of Kosi. Cuttings of vines were

brought from France, Zante, Tenos, the Rhine, Astrachan, and Kisliar; and two Frenchmen, the one a vine-dresser and the other a farmer, were appointed to plant and to manage them. Ten orphan pupils, from the military school of Cherson, were put under the care of these cultivators; government supplied the necessary capital for every part of the undertaking; and 28,000 vines were planted, which, in the year 1826, produced 1800 vedros of wine of Hungary, Bourdeaux, the Rhine, Asmalhausen, Muscat, Petit-Bourgoyne, Zante, and Kakour, of the best quality. (*Bul. Un.*, Oct. 1827.)

Astankina, the seat of Comte Schérémétow, is situated three versts from the exterior barrier of Moscow, on the Smolensko road. The grounds are low and flat, and wholly covered with natural forest, chiefly of birch, bird-cherry, and black poplar; and the house and its scenery (*fig. 112.*) may be

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described as situated on the margin of this forest. A part of the natural woods and glades is enclosed, traversed by walks, and kept dressed as pleasure-ground. Its ornaments are a few vases and statues, a temple, and some exotic shrubs: the latter, being sheltered by the natural wood, thrive much better than could be expected from the climate. Rustic buildings are not considered pleasure-ground ornaments in Russia, because they approach too near to the common hovels of the peasantry, which are all built of logs, and some of them very curiously ornamented at the gable ends. In the kitchen-garden here are peach-houses and vineries, which, when we saw them on the 23d of April, 1814, were under the care of a Scotch gardener. Both peaches and grapes were set, and some of the former were stoning. The soil of the garden is a dry sand, and, being favourable for early crops, peas, beans, potatoes, and radishes were in an advanced state, but they required to be covered every night with spruce fir branches, on account of the frost: indeed, there are no early crops in the neighbourhood of Moscow that do not require a great deal of protection; but the materials are abundant, and labour cheap. A foreign gardener may have as many Russian labourers under him as he chooses; though these being generally slaves, who work so many days in the year for their cottage and a few acres of land, it requires three or more of them to do the work of a single Briton. It is but doing them justice to state, however, that a little extra pay, and occasional presents or indulgences, have a most sensible effect upon them; and, being docile and imitative, they sometimes make very neat workmen. One circumstance in their favour it may be interesting to British gardeners to know, viz. that they are perfectly good-hearted, and retaliation in any form, and much less murder or robbery, are scarcely ever heard of among them, from the one end of the empire to the other.

The church or chapel here (on the left in *fig. 112.*) is of that peculiar architecture which may be called the Russian ecclesiastic style : it is covered with minarets and crosses exteriorly, and with pictures of saints within ; and is open every day in the year, from early in the morning till sunset, for the use of the family and their numerous domestics. Service is performed by the priest at stated periods, without regard to the attendance of any person ; and any person goes in and says his prayers, without regard to the hours when the priest attends.

Like most of the houses in and about Moscow, the mansion of Astankina was built in a great hurry a few years previously to 1814, when we saw it, and was then showing symptoms of decay.

NORWAY AND LAPLAND.

Cultivation of the Potato in Norway. — So slow has been the progress of this root in Norway, that Von Buch states that it was scarcely known at Bergen in 1762 ; a circumstance the more remarkable, as at least a century has elapsed since its introduction into Iceland, the climate of which is less favourable than that of Norway. In about twenty years the potato found its way into the Nordland, and not long afterwards was introduced into Finmark, where it has now become pretty general. The potatoes of Alten, though seldom exceeding the size of a small egg, form, nevertheless, a valuable addition to the resources of the inhabitants of Lapland. Their produce usually averages about thirty-fold. In one recent instance it reached to forty-four. The price is usually from 3*s.* 6*d.* to 5*s.* the barrel, or sack, of four English bushels. The potatoes grown in Finmark are remarkably sweet to the taste, of a waxy nature, and in colour of a deepish yellow. Some that were sent me lately from Alten, were planted in good garden ground, in the early part of the summer, and prove to be a valuable kind of early potato. The originals were all of a round shape ; the produce, however, which are good, and exceed the former several times in size, are many of them oblong, and not unlike the common kidney. The remarkable alleviation of disadvantage in respect to climate which Finmark presents, the frequent luxuriance of its indigenous plants, and the powerful vivifying influence of an arctic summer, encourage the supposition that, under proper management, its soil might be rendered far less ungrateful than is generally supposed. The culture of the potato in particular, it may be hoped, will both improve and become extended ; a circumstance that, in the present almost absolute dependence of Finmark and Nordland upon Russia for a supply of bread corn, is earnestly to be desired ; and, if we examine the character of the climate of the islands and coasts of Northern Norway, the degree in which it differs from all countries under the same parallel, and the circumstance by which this difference is apparently produced ; such an expectation will not appear ill-founded. Von Buch, who certainly did not form too favourable an idea of the climate of Finmark, justly remarks, that in well secured cellars at Keilvig, close to the North Cape, Hammerfest, and Alten, it never freezes ; that the stream of fresh water, which enters the Bay of Hammerfest from the little lake above it, flows unfrozen during winter ; and that the long grass, which springs among the crevices of the rocks of the North Cape itself, does not cease to vegetate powerfully beneath the snow, in the absence of the sun. (*Capell Brooke's Lapland*, p. 203.)

Flora of Alten. — In Capell Brooke's *Travels in Lapland*, upwards of eighty species are enumerated as growing in the neighbourhood of Alten. Among the most rare of these plants are the *Pedicularis lappónica*, and *Scéptrum Carolinum*. The latter magnificent plant was found by the late lamented Mr. Andrew Knight, jun., in a bog near Boscop, and was 5 ft. in height ; he met, also, with the *Rhododéndron lappónicum* in abundance.

This beautiful and diminutive plant is a perfect resemblance, in miniature, of the common shrub, *Rhododéndron pònticum*. It is found only upon the most barren mountains, near the limits of perpetual snow, and blossoms in the end of June ; and is so extremely minute a shrub, that one plant, apparently very old, and bearing, perhaps, 500 flowers, might be covered with the hand. (*Capell Brooke's Lapland*, p. 152.)

NORTH AMERICA.

Zamia integrifolia ; *Cycàdææ*. *Its nutritive Properties, &c.* — Mr. M'Fadyen, botanist to the island of Jamaica, described this species as indigenous to the island, in a communication read to the Jamaica Society of Arts, in October, 1826, and subsequently published in the *Royal Jamaica Gazette*. From this communication the following extract has been sent us, by our correspondent X. Y. : — “ *Zamia integrifolia* has been considered as a native of East Florida and St. Domingo. Dr. Mason has the merit of first showing that it is an inhabitant of Jamaica. There is another species, *Z. débilis*, a native of Hispaniola, which was introduced by Mr. Ellis. The present species is distinguished from it by the leaves in the latter being lanceolate-acute, while in our plant they are scimitar-shaped, rounded, obtuse, and serrated at the apex, on the exterior side. As for the economical uses of the plant, starch may be obtained from the root, which is to be grated and prepared like arrow root. If we may judge from the quantity of adhesive fluid which exudes from the root and flower-stalk, when divided, it is probably combined with a considerable portion of gluten. We may, from this, set it down as not inferior in its nutritive qualities to any of the alimentary substances obtained in this manner, having nearly the same ingredients as wheat flour. In taste it is exceedingly palatable. It is also easily procured, the bark covering the root being thin, and separating without difficulty, leaving the soft fleshy part ready for preparation. In this respect it differs from the *Cycas circinàlis* (Sago Palm), the undeveloped protuberances of which are covered with a thick bark, separated with difficulty.”

The Nutgrass of the West Indies (*Cypèrus hydra*) is the scourge of all light soils ; and some estates in the islands of Nevis and St. Christopher are so infested by it, that the culture of the sugar-cane has been abandoned. It is suggested by Dr. Hamilton, of Plymouth, that the *Cæsalpínia coriària* might be advantageously substituted in such estates for the sugar-cane, and he thinks it would prove equally profitable.

Rapid Vegetation in the United States. — Some English peas brought out by the British brig Catherine, Donald, from Liverpool, were sown by Mr. Cooper, of St. Simmonds (Georgia), on the 10th January. On the 27th of February, that gentleman sent Captain Donald a peck of fine green peas, the produce of the same seed. An apricot, measuring $3\frac{1}{4}$ in. in circumference, which grew in an open garden in New York, was exhibited at the Meeting of the Horticultural Society, on the 22d of April. Such is the rapid progress of vegetation in this country. (*New York Evening Post*, April 23. 1828.)

Season at Charleston, South Carolina, Feb. 5. 1828. — A gentleman showed us a ripe pear, matured without any peculiar cultivation in the open air. (*Gordon's MS. Journal of a Visit to America in 1828.*)

Orange Trees in Florida, Jan. 1. 1828. — The orange trees here are bearing upon their boughs four different crops, in various stages of growth ; other trees are also in bloom, and many are budding. (*Ibid.*)

Nosegay at Fredewicks, in Virginia, Feb. 6. — Saw, on Sunday last, a nosegay, consisting of the following flowers : a full-blown white hyacinth, two kinds of violets, daffodils, and wallflowers. They were grown in a situation unprotected from the weather, in the garden of Mr. C. C. Welford, of this town. (*Ibid.*)

Wistèria Consequàna. — The generic name should be spelled *Wistària*, it being named after Mr. Wistar. This information was received from Dr. Wray, of Augusta, who was confident on the subject, and wished me to set you right. (*Gordon's MS. Journal*.)

The Public Squares of Philadelphia have been handsomely laid out and planted, and also a double row of trees planted on the noble pavement in front of the State House, in consequence of a petition drawn up by Dr. Meuse, some years ago, and signed, on his personal application, by such a number of citizens as produced the effect intended. — *J. M. Philadelphia*, June 10. 1828.

Cactus peruviàna var. — There is a plant of the *Tùna* family, called *Pelaga* and *Organo* in the language of the country, which shoots up in long fluted stems, covered with thorns, and many feet in height. It is abundant and gigantic at Bolaros, and in a rancho through which we passed this day; the gardens and the roads are bounded by it, planted in the most perfect regularity, and forming exceedingly secure and beautiful fences. It is a variety of the *Cactus peruviàna*, a plant cultivated in our hot-houses, which greatly resembles it, and which requires a height of 20 ft. (*Lyon's Mexico*.)

A violent Tempest of Hail, Wind, and Rain broke upwards of 1500 panes of glass in Washington, on the 26th of April. In some other parts of the country, trees, fences, and houses were blown down, windows broken, and the crops spared by the frosts were destroyed. Some of the hailstones measured 8 in. in circumference. In its course through South Carolina, the ravages of the tornado are stated to have been still greater. (*Washington News*, April 28. 1828.)

SOUTH AMERICA.

Anòna Cherimòlia. — On our road this day we saw a great many trees bearing the Cherimoya fruit in a wild state; a single wild Cherimoya has been known to weigh an arroba (25 lbs.). It is a very nice fruit, rather more acid than when cultivated in gardens, and is considered a good remedy in bilious fevers. Monkeys are very fond of it. (*Hamilton's Interior of Colombia*, vol. ii. p. 174.)

Cæsalpínia coriària; *Leguminòsæ*. — This shrub, or low tree, is abundant on the sandy shores of Curacao and Carthagenà, and at both places its pods are employed for tanning leather. According to experiments made by Mr. Prideaux, a chemist of Plymouth, at the suggestion of Dr. Hamilton, three tons of *Cæsalpínia* pods (dividivi and libidibi, as they are called in South America) are equal to 7 tons 16 cwt. of oak bark. Dr. Hamilton, therefore, with that unwearied zeal for the good of society by which he is characterised, is extremely anxious that it should be extensively cultivated in South America, the West Indies, and even on the coast of Africa; and he has transmitted a memoir on the subject to the Secretary of State. We hope Dr. Bancroft will direct the attention of some spirited cultivator in Jamaica to the plant, and that it will not be lost sight of in Australasia, by Mr. Macleay. If Dr. Hamilton's calculations are any thing like correct, the material cannot fail, in a short time, to become an article of commerce between South America and this country. The plant is of the easiest propagation and culture, and seeds may be had from the consuls in South America.

AFRICA.

The Garden of the Hesperides. — Lieutenant Beechey, in his *Travels in Cyrene*, recently published, has thrown some curious light on the ancient account of these celebrated gardens. It appears that, like many other wonders ancient and modern, when reduced to simple truth, they are little

more than common occurrences. Baron Humboldt and Mr. Bullock have reduced the floating gardens of Mexico to mud banks, with ditches between; and Lieutenant Beechey makes it appear, that the gardens of the Hesperides are nothing more than old stone-quarries, the bottoms of which have been cultivated.

Besides deep quarries, whence the cities of old were constructed, Mr Beechey tell us, "Some very singular pits or chasms of natural formation are found in the neighbourhood of Bengazi; they consist of a level surface of excellent soil, of several hundred feet in extent, enclosed within steep, and, for the most part, perpendicular sides of solid rock, rising sometimes to a height of sixty or seventy feet, or more, before they reach the level of the plain in which they are situated. The soil at the bottom of these chasms appears to have been washed down from the plain above by the heavy winter rains, and is frequently cultivated by the Arabs; so that a person, in walking over the country where they exist, comes suddenly upon a beautiful orchard or garden, blooming in secret, and in the greatest luxuriance, at a considerable depth beneath his feet, and defended on all sides by walls of solid rocks, so as to be at first sight apparently inaccessible. The effect of these little secluded spots, protected, as it were, from the intrusion of mankind by the steepness and the depth of the barriers which enclose them, is singular and pleasing in the extreme. It was impossible to walk round the edge of these precipices, looking every where for some part less abrupt than the rest, by which we might descend into the gardens beneath, without calling to mind the description given by Scylax of the far-famed garden of the Hesperides. This celebrated retreat is stated by Scylax to have been an enclosed spot of about one fifth of a British mile across, each way, filled with thickly planted fruit trees of various kinds, and *inaccessible* on all sides. It was situated (on the authority of the same writer) at 620 stadia (or 50 geographical miles) from the *Port of Barce*; and this distance agrees precisely with that of the places here alluded to from Ptolemeta, the port intended by Scylax, as will be seen by a reference to the chart. The testimony of Pliny is also very decided in fixing the site of the Hesperides in the neighbourhood of Berenice.

"We have shown that the nature of the ground, in the neighbourhood of Berenice (or Bengazi), is consistent with the account of Scylax; and that places like those which he has so minutely described, are actually to be found in the territory where he has laid down the gardens. This singular formation, as far as we have seen, is also peculiar to the country in question; and we know of no other part of the coast of northern Africa where the same peculiarities of soil are observable. We do not mean to point out any *one* of these subterranean gardens, as that which is described in the passage above quoted from Scylax; for we know of no one which will correspond, in point of extent, to the garden which this author has mentioned: all those which we saw were considerably less than the fifth of a mile in diameter (the measurement given by Scylax); and the places of this nature which would best agree with the dimensions in question, are now filled with water, sufficiently fresh to be drinkable, and take the form of romantic little lakes. Scarcely any two of the gardens we met with were, however, of the same depth or extent; and we have no reason to conclude that, because we saw none which were large enough to be fixed upon for the garden of the Hesperides, as it is described in the statement of Scylax, there is, therefore, no place of the dimensions required among those which escaped our notice; particularly as the singular formation we allude to continues to the foot of the Cyrenaic chain, which is fourteen miles distant, in the nearest part, from Bengazi. The remarkable peculiarities of this part of northern Africa correspond (in our opinion) sufficiently well with the authorities already quoted, to authorise the conclusion we have drawn from an inspection of the place; and to induce us to place the gardens of

the Hesperides in some one, or more, of the places described, rather than in any of the Oases of the desert, as suggested by Monsieur Gosselin and others."

ASIA.

The Areca Nut is the *Arèca Câtechu* of Linnæus. This nut is used all over India for chewing with the betel leaf, or the *Bètte pféffer* of Willdenow. There are three species of this nut on Ceylon, which grow in great perfection in the interior of the country, and are much esteemed throughout India. The areca nut is to this day one of the most profitable and most abundant articles of exportation from that island. (Sir A. Johnston in *Trans. of the R. A. S.*, vol. i. p. 545.)

The various Kinds of Pepper grown in the East Indies are enumerated and described by Dr. Blume, in the first volume of the *Transactions of the Society of Arts and Sciences in Batavia*. (*For. Quar. Rev.*, Nov. 1827, p. 658.)

The Culture of Culinary Vegetables, in the Sandwich Islands, was introduced by Marini, a Spaniard, about the end of the last century. Marini formed extensive gardens, where melons and gourds of all kinds, various species of cabbage, potatoes, and other vegetables common in Europe, were cultivated with great success. (*Voyage to the Sandwich Islands in 1824–25*, 4to, p. 41.)

Preparation of Cinnamon. — The manager of the cinnamon gardens good-naturedly sent some of the cinnamon peelers to our bungalows, that we might see the way in which the spice is prepared. They brought with them branches about 3 ft. in length, the rough bark of which they scraped off with knives, and then, with a peculiar instrument, stripped off the inner rind, in long slips; these are tied up in bundles, and put to dry in the sun, and the wood is sold for fuel. In the regular preparation, however, the outer bark is not scraped off; but the process of fermentation which the strips undergo, when tied up in large quantities, removes the coarse parts. The peelers are called Chaliers. (*Heber's Narrative*.)

Piney Tallow is a vegetable product, resembling common tallow in many of its properties; it is obtained from the piney tree, *Vatèria* (Abraham Vater, Professor of Botany at Vittemberg in 1722) *indica*, by boiling the fruit in water, when the tallow is soon found to rise to the top in a melted state, and, on cooling, forms a solid cake. The colour of the tallow is generally white, but sometimes yellow; it is greasy to the touch, with some degree of waxiness; it is almost tasteless, and has an agreeable odour: it melts at a temperature $97\frac{1}{2}^{\circ}$, and consequently remains solid in the climate of India. The piney tallow is used only for medicinal purposes at Mangalore, but the tree is common throughout the western coast of the peninsula of India, at least as far northward as the boundaries of the province of Canara; and there would no doubt be sufficient to supply a considerable demand for this valuable product. The piney tallow has been made known in this country by Dr. Babington, according to whose analysis 100 parts contain carbon 77, hydrogen $12\frac{1}{2}$, oxygen $10\frac{2}{3}$ = 100. (*London Mechanic's Register*.)

AUSTRALASIA.

Fruits of New Holland. — The Blue Mountains, as well as the whole surface of New Holland, are entirely destitute of alimentary fruits, except the Sorose, a bramble allied to *Rûbus fruticòsus*, and a small berry, of which the Europeans make a very good preserve, and which is produced by the *Leptomèria Billardièra* of Brown. All the fruits of this country are woody and coriaceous. For this reason, the natives have been forced to inhabit the banks of the rivers, and to follow their courses in wandering tribes, accordingly as the resources of the chase or fishing become exhausted: whence arises that absence of art, that profound barbarism, in which the black race of this country are immersed, who drag on a miserable exist-

ence, approaching to that of the brutes. How different from the half-civilised state of the happy islanders of the Oceanic race, whose soil, rich and fertile in nutritious fruits, is sufficient to insure the existence of tribes, which do not require to provide for their daily subsistence by such fatigues ! (*Lesson in Jam. Phil. Jour.*, Dec. 1827, p. 164.)

Aspect of Vegetation. — Although the edges of Fish River are pretty agreeable, they yet present the monotony which is universally the characteristic of the vegetation of these countries. Besides about a score of species of *Eucalyptus*, the appearance of which is very much alike, there are only to be seen, and with no variety, *Mimosa*, *Metrosideros*, *Pròtea*, *Casuarina*, and a very few European genera along the edge of the waters. Hence, the forests of Australasia have a sad and lugubrious aspect. In crossing the Blue Mountains, one cannot fail to remark the uniformity which nature has given to the leaves. Their form, except, perhaps, those of some *Mimosa* with bipinnated foliaceous expansions, is generally simple, and they are more or less dry, stiff, and smooth. She would seem to have accommodated them to the dryness of the soil, by giving them an oblique direction, for the purpose of presenting the greatest possible surface to the air, which must furnish their principal nutriment. New Holland, alone, presents the singular phenomenon of entire leaves, or foliaceous petioles, in trees which are every where else remarked for the extraordinary elegance of their divided foliage. (*Id. ibid.*, p. 163.)

ART. II. Domestic Notices.

ENGLAND.

Hot Water in Earthen Pipes. — I have got the hot water laid on in two of our pine stoves this spring : one has been at work for six weeks past, the other will be finished almost immediately. I am quite delighted with it, and, luckily, I did not make a single blunder in putting it up, although I had only the assistance of a country mason, who never saw or heard of such a thing ; indeed, it is the only thing of the kind in this part of the country. I had one narrow escape in laying the pipes, as I made up my mind to lay the under pipes below the level of the boiler ; but, luckily, I altered my mind before we began. The pipes are of earthenware, made strong and large, $7\frac{1}{2}$ in. in diameter, and cost only 1s. 6d. per foot. We took pains in putting them together with good Roman cement ; and, although one of your correspondents says that they cannot be made watertight, yet I can scarcely think so, as in the house I have had at work for six weeks, in which there is 100 ft. of pipes, there is not a single leak or drop in any part ; in the house we are about finishing, the pipes have been full of cold water this week past, neither is there any leak in them : but, in twelve or eighteen months, I shall be able to say more. I must again say, that I am highly delighted with this invention ; notwithstanding whatever your steam correspondent may say, yet the very circumstance of a country gardener and a country mason being able to put up the whole apparatus, without a single mistake, and this from no information but what was obtained from the *Gardener's Magazine*, without either of them ever having seen the apparatus itself, speaks volumes in its favour. I am, Sir, &c. — *Robert Reid. Monrath House, near Collumpton, Devonshire, June 9. 1828.*

Management of Bees. — We have received from Mr. S. W., of Lancaster, an account of an easy and ingenious mode of managing bees, and taking their honey without killing them. A common straw hive is used in the first place, prepared by having two doorways instead of one : the first,

in the front of the hive, to serve as the common entrance ; the second, at the side or back thereof, which must be stopped with moss or soft paper till it is wanted. When the hive is filled with comb, have a box 1 ft. square inside, made of stout yellow deal, having a glazed window and outside shutter fitted thereto, to see the bees at work ; this, having a doorway of the same size as that of the closed one of the hive, is placed close thereto, the moss or paper stopping being first removed.

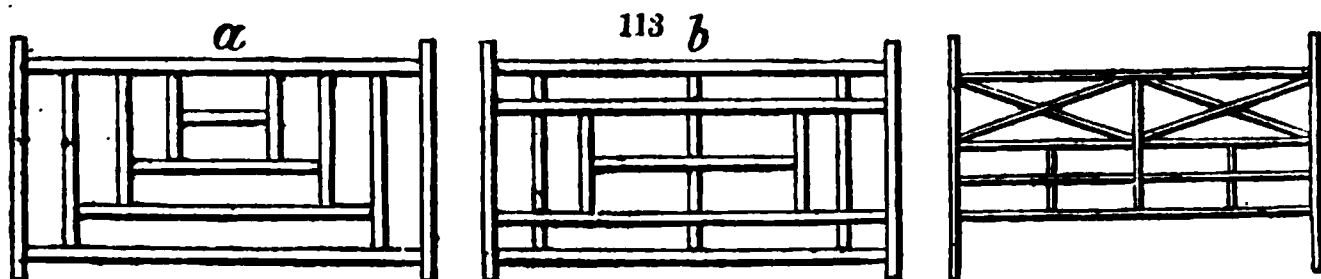
The bees will soon begin to work, and, if a good season, fill the box also, at which time it may be taken away. In doing this, "run with it to some out-house," and allow the bees it contains to return home. The queen seldom goes into the box, but if, by chance, she should be there, the box must be carried back to the hive, and she and her companions drummed out, by gently tapping the box. In doing this, a bee-dress is necessary. — *J. M. for Cond.*

Salt as a Manure. — A correspondent has favoured us with his opinion as to the value of this substance as a manure, and also with a table of directions for its use. As this may be interesting to some of our readers, we subjoin the following summary : — A general rule is, never to sow it with the seed. For potatoes, onions, carrots, and parsneps, from 10 to 12 cwt. per acre ; laid on not nearer than one month *before* seed time ; and for garden ground in general, he advises 14 or 16 cwt. per acre to be laid on early in spring. Composts, 1 cwt. per load. Its principal use, as assisting vegetation, is, its property of absorbing moisture from the air, and retaining it in the soil ; and also its use in destroying weeds and vermin. — *J. M. for Cond.*

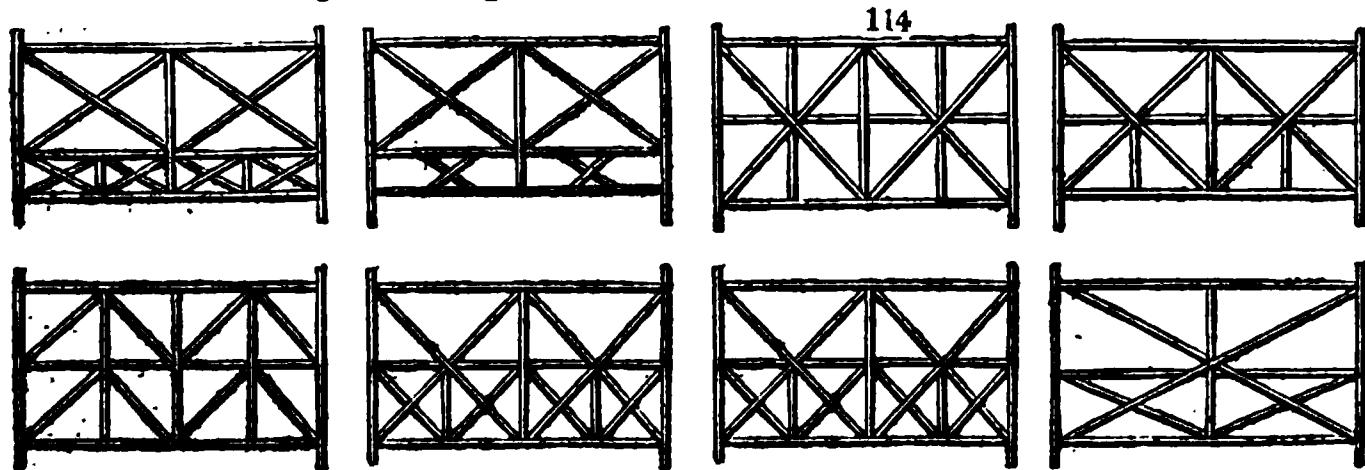
The Dahlia may be advantageously forced by potting the roots in February, and letting them remain in frames till June, when they will begin to flower, and may be turned out into the open border. — *Matthias Sylvaticus.* October 10. 1827.

Transplanting Turnips. — For many years I have sown turnip seed on any little vacant spot, and, when the plants had two or three leaves, planted them out, by a line, in regular rows. Nothing can succeed better, or produce finer roots ; hardly one in twenty dies. — *Rusticus in Urbe.*

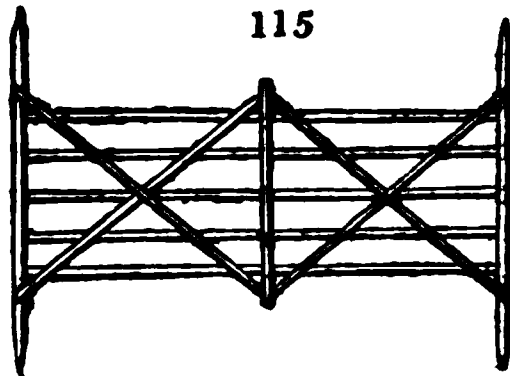
Patterns for Hurdles. — I beg leave to send you some patterns for hurdles (*fig. 113, 114.*), which may be made of common materials, and



would be more ornamental, and hardly more expensive, than the common sheep hurdle. The first two (*fig. 113. a, b*), to be made of oak, are intended for parks, and may be six or seven feet high ; the others (*fig. 114.*), of willow or ash, the common size, to fence off shrubs or trees, after hay-making, in home-fields or pleasure-grounds.



Add to these, if you please, a great improvement; namely, to make each end answer as the bottom, so that if a leg is broken off, it is only necessary to turn the hurdle upside down, and we have still a perfect hurdle. Make the heads eighteen inches or two feet longer than usual, and sharpen both ends (*fig. 115.*); then the side pieces should be always double, one on each side of the rails, and should shut in at their ends on the heads and the centre piece, that their bearings may be equally strong and firm whichever end is uppermost. — *Rusticus in Urbe.*



Wire-netting, fixed in Frames of different sizes, would be found extremely useful to protect seeds or fruit on wall trees from birds. Netting made of string is constantly breaking and rotting; the other, now and then painted, would last for many years. — *Id.*

Pears may be grafted on Stocks of the Mountain Ash and the Service Tree; both of which will grow and thrive where pear tree stocks would not. I have also seen apples grafted on quince stocks, and planted in a soil so wet that an apple could not live; but they are doing very well, and making exceedingly fine shoots. — *Id.*

My Arracacha plant is flourishing beyond my most sanguine expectations in the open air; indeed, it grows much more luxuriantly in the open air than in the house. The mean temperature of July here exceeds that of July at Bogota by $1^{\circ} 26'$ of Fahrenheit; the mean temperature of the hottest month here being $63^{\circ} 50'$, according to Kirwan, and at Bogota only $62^{\circ} 24'$, according to Humboldt. — *W. Hamilton. Plymouth, July 8.*

A Strawberry was gathered, on the 20th of June, from the garden of Mr. Norris, Brentford End, which measured $13\frac{1}{4}$ in. in circumference, and weighed upwards of 3 oz. (*Morning Herald.*)

Blue Hydrangeas are produced by planting them in a compost of bog earth and turf-ashes, or ashes of the Norway spruce fir. (*MS. Jour. of Brist. Nurs. Lib.*)

Power of the Sun's Rays. — Mr. Mackintosh, contractor for the government works at Stonehouse Point, Devon, had to descend in the diving-bell with workmen to lay the foundation of a sea wall. The machine is fitted with convex glasses in the upper part, to serve the purpose of windows, and Mr. Mackintosh states that, on several occasions in clear weather, he has witnessed the sun's rays so concentrated by the circular windows, as to burn the labourers' clothes when opposed to the focal point, and this notwithstanding the machine was 25 ft. under the surface of the water! (*Extracted from the MS. Journal of the Bristol Nursery Library.*)

The Plant-louse Lion. — The *Hemerobius pérle*, in its larva state, is called the plant-louse lion. The editor of the *Technological Repository*, having noticed small oval bodies raised on pedicles on the upper surface, and attached to the edges, of leaves on which the eggs of the aphids were deposited, mentioned the circumstance to Mr. T. Carpenter (author of the natural history of this insect), who knew them to be the eggs of the plant-louse lion; and adds that the eggs are so disposed, in order to be out of the way of the young aphides till they are hatched, when the lion approaches by the pedicle, and falls on its prey, by sucking the juice of the aphids, leaving the skin empty. The appearance of those skins among the aphides led some naturalists to suppose that they cast a slough. Mr. Carpenter's observation, however, shows that these empty skins are not sloughs, but the remains of the murdered aphides. (*Tech. Rep., May, 1828.*)

Utility of Toads in Gardens. — Practical men have been long aware that toads live chiefly on insects, particularly beetles; some have even made it a point to place them on their hot-beds, for the purpose of destroying woodlice, earwigs, &c. A correspondent, Mr. Reeve, who has long employed

toads as guardians of his melon and cucumber frames, fully corroborates all that has been said respecting their usefulness in such situations, and is so attentive to them, that, when they have cleared his beds of insects, and he finds them uneasy in their confinement, he actually feeds them, in order to keep them there. He offers them the different insects which are considered noxious in gardens, all of which they devour; even slugs are eaten by them (though this is denied by another correspondent); and if so, this despised reptile must be a beneficial assistant to the gardener at times, and in a way he is at present but little acquainted with. — *J. M. for Cond.*

The Cow Cabbage. — There is a plant of this valuable variety now coming into flower in the garden of a friend near this, from which I hope to obtain a fresh supply of seed in a few months, some of which I shall transmit to you for distribution, and the remainder I shall retain for those who may wish to apply to me for it. — *William Hamilton. Oxford Place, Plymouth, Feb. 17. 1828.*

Apples may be kept all the year round, by being immersed in corn, which receives no injury from their contact. If the American apples were packed among grain, they would arrive here in much finer condition. In Portugal it is customary to have a small ledge in every apartment (immediately under the cornice), barely wide enough to hold an apple; in this way the ceilings are fringed with fruit, which are not easily got at without a ladder, while one glance of the eye serves to show if any depredations have been committed. (*Brande's Quar. Jour.*, Jan. 1828, p. 497.)

Loàsa nítida. — Mamma desires me to write you respecting that vile plant *Loàsa*. She wishes you would examine it, and see if there is not a poisonous fluid in each of its stings, they are so corrosive. — *A. M. July 10.*

You should warn your readers against gathering the flowers of *Loàsa*. The prickles of that plant appear to me to be hollow conical tubes, filled with fluid poison. A sting, which my child received a week ago, is not yet better. — *I. K. August 7.*

Swedish Turnips have grown on the same soil, on the property of W. Whitehouse, Esq., of Studley, for seven successive years, with undiminished fertility and weight of crop. The soil consisted principally of decomposing vegetable peaty matter and chalk. (*G. Sinclair in Farm. Jour.*, July 7. 1828.)

The Achira is a species of *Cánna*, bearing a tuberous esculent root, equal, if not superior, to the potato. I have given seeds to Dr. Bancroft of Jamaica, and Mr. Aiton of Kew. My zealous correspondent, Mr. Watts, procured me this valuable plant from the hot regions of the Choco, and I am not without hopes of adding it to our stock of cultivated roots. I propose naming it the *Cánna tuberòsa*. — *W. Hamilton. Plymouth, July 8.*

Use of Botanical Geography. — James Lee, the grandfather of the present nurseryman at Hammersmith, is said to have discovered what islands had belonged to Europe, and what to Asia, by the heath, which is abundantly dispersed over Europe, Africa, and America, but is not to be found in Asia, or in any of the islands which must have once formed a part of that continent. (*Thornton in Lee's Introduction to Botany*, pref. p. xiv.)

SCOTLAND.

The Caledonian Horticultural Society held a Meeting on August the 7th. Thirty-five sorts of seedling gooseberries were produced, chiefly raised from the Sulphur, Ironmonger, and Warrington, at Whitehill, near Lasswade; seed sown in 1824, and the berries sent from the original seedling bushes. The whole having been carefully examined, nine of the sorts were judged good, but two more especially preferred, — a very rough white, and a very rough yellow kind. The Meeting judging it right to encourage such zeal in raising seedling fruits, awarded the Society's silver medal to Mr. David

White, gardener to Colonel Ramsay, at Whitehill. A fine collection of seedling carnations was exhibited, raised in the garden of John Leven, Esq., South Hill, Burntisland; seed sown in spring 1827. Thanks were given to Mr. Leven for this communication. A seedling gooseberry of excellent flavour was submitted to the Meeting, by Mr. Robert Lees, gardener to Miss Scott, Mount Lodge, Portobello, for which thanks were also voted. A communication from Mr. Thomas Spalding, gardener to Captain Rattray, Arthursstone, addressed to Mr. Barnet, was read, presenting plants of his new climbing roses; likewise a collection of seedling carnations to be shown to the Meeting, the thanks of which were voted therefore to Mr. Spalding. A box from Delvine was opened, containing a rich display of seedling dahlias, and of seedling carnations; and likewise three very superior kinds of seedling gooseberries, Mignonette, Porcupine, and the New Ironmonger; cordial thanks were voted to Mr. William Henderson, gardener to Sir Alexander Muir Mackenzie, Bart., for these communications. A box containing a remarkably fine display of seedling carnations was exhibited by Mr. Charles Jack, gardener to James Macdonald, Esq., Newington, for which thanks were voted. No fewer than forty of the choicer kinds of gooseberries were laid before the Meeting from the Society's experimental garden, and the preference was given to Shipley's Black Prince, and Crompton's Sheba's Queen. (*Edin. Adv.*, Aug. 12.)

The North British Professional Gardeners' Society held a Meeting in the Calton Convening Room on July the 9th, and awarded prizes as follows:— For the best two heads of cauliflower, to Thomas Inglis, gardener to the Hon. Mrs. Ramsay of Barnton; and for the second best, to Dougal M'Ewan, gardener to Lady Dundas of Beechwood. For the best two heads of early York cabbage, to Mr. James Meek, gardener to James Gordon, Esq., of Craig Hawk Hill; and for the second best, to A. S. Porterfield, gardener at Restalrig. For the best two bunches of Black Hamburgh Grapes, to A. Tod, gardener to Robert Anderson, Esq., of Eskbank; and for the second best, to David Stewart, gardener to Walter James Little Gilmore, Esq., of Craigmillar and Libberton. For the best six peaches, to Thomas Inglis, gardener, Barnton; and for the second best, to Allan Galloway, gardener to Miss Leslie Cumming, Springfield House. For the best imperial quart of strawberries, to John Blair, gardener, Dalry; and for the second best, to James Goodal, gardener to the most noble the Marquis of Lothian, Newbattle Abbey. For the best six sorts of pinks, to John Young, gardener to Thomas Oliver, Esq., Burntisfield Place; and for the second best, to Daniel Sinclair, gardener to James Donaldson, Esq., Broughton Hall. For the best six varieties of double larkspur, to John Begree, gardener, Pilrig Road; and for the second best, to Daniel Sinclair, Broughton Hall. John Macnaughton, gardener, Edmiston, presented a basket full of balsam flowers, all double; there were ten distinct varieties, most of them new. John Williamson, gardener, Canonmills Cottage, presented some Keen's seedling strawberries, one of which weighed 16 dwts. 9 grs.; another 11 dwts. 21 grs. All the articles produced did credit to the growers, and afforded a treat to the few amateurs that honoured the Meeting with their presence. (*Scotsman*, July 12.)

Dundee Horticultural Society.— The June Meeting of this Society was held on Friday week in the Caledonian Hall, Castle Street; when the variety of the flowers, and the excellence of the vegetables, far exceeded the expectations of the most sanguine. The pelargoniums (geraniums) were particularly fine, as were also the anemones and ranunculuses; a week later, however, the prize for the latter would have been better contested, as several excellent collections were then scarcely in bloom. The peas, potatoes, and turnips were remarkably fine; some of the latter measuring upwards of 10 in. in circumference, a size unprecedented in this part of the country so early. The successful competitors are as follows:— For

the best white-ground pelargoniums, to Mr. James Smith, gardener, Ellangowan; and for the second best, to Mr. James Kidd, gardener, Rossie Priory. For the best variety of pelargoniums, to Mr. John Dick, gardener, Ballindean; and for the second best, to Mr. J. Smith. For the best seedling pelargonium, to Mr. J. Smith; and for the second best, to Mr. D. Mitchell, gardener, Carolina Port. For the best double and best variety of single anemones, to Mr. Urquhart; and for the second best double, to Mr. D. Stewart. For the best ranunculuses, to Mr. J. Smith; and for the second best, to Mr. Thomas Galloway, gardener, Rose Angle. For the best seedling ranunculuses, to Mr. T. Galloway; and for the second best, to Mr. Thomas Spalding, gardener, Arthurstone. For the best Scottish roses, to Mr. D. Stewart; and for the second best, to Mr. J. Kidd. For the best seedling roses, to Mr. T. Spalding; and for the second best, and best variety of green-house and best bouquet of hardy flowers, to Mr. J. Kidd. For the best peas, to Mr. Hughes, gardener to Mr. Morton, Broughty Ferry; and for the second best, to Mr. J. Kettle, gardener, Glendoig. For the best early potatoes, to Mr. J. Macdougall, gardener, Castle Huntly; and for the second best, to Mr. J. Kid. For the best turnips, to Mr. J. Kid; for the second best, to Mr. J. Dick. For the best gooseberries, to Mr. J. Kid. A beautiful stand of white-ground tulips, and some choice Chinese roses, were produced from Ellangowan, and a great variety of violets from Arthurstone; a fine specimen of *Lýchnis fúlgens*, and *Potentilla atosanguínea*, from Dudhope nursery, and some double yellow roses from Cunnoquhie; a dish of strawberries from the open ground, some well kept apples, and some old carrots in good preservation, were produced from Glendoig; some old onions, a great variety of parsley, a very large brace of broccoli, and a stem of cabbage, bearing its fourth crop since 1826, were produced from Carolina Port; a beautiful brace of cauliflowers was produced from Ballindean; and some good seedling pinks from Rossie Priory. (*Dundee Adv.*, June 26.)

Price of Fruits in Edinburgh. — Pine-apple seldom varies, and is selling from 6s. 6d. to 7s. a lb.; grapes are 2s. and 2s. 6d.; melons 1s. 6d. to 2s.; cherries and geans 9d. a lb.; peaches and nectarines 2s. 6d., and apricots 1s. to 2s. a dozen; Orleans Plums 8d. and 9d., and Blue Gages 4d. to 6d. a doz. There are yet but few sorts of pears in the market; Jargonelles 9d. and 10d., Prematures 7d. and 8d., Lemons 6d., and Crawfords 4d. and 5d. a lb. Baking apples 3d. and 4d. a lb.; limes 2s. to 2s. 6d. a dozen. Gooseberries, common sorts 3d. and 4d., jam sorts and for the table 4d. to 6d. a quart. Currants are getting scarce; black are 6d., red 4d., and white 3d. a quart. The strawberries are gone, and the rasps are nearly over for the season. (*Scotsman*, Aug. 16.)

Large Melon. — On Monday, a melon of the netted species, was cut in the garden of Sir Charles Halket, Pittferran, which weighed 19 lb. This is considered to be among the largest melons ever grown in Scotland, and our horticultural friends may see it at our office. (*Ibid.*, Aug. 6.)

Botany at Edinburgh. — Mr. G. N. Lloyd lately terminated his summer course of practical botany, during which he had given unmixed satisfaction to the gentlemen by whom he was attended. He has spared no pains, and omitted no opportunities, for procuring and exhibiting specimens of all the indigenous plants in this neighbourhood, the characters and properties of which he explained with equal patience and perspicuity. Mr. Lloyd is advantageously known to the botanical world, as the author of a valuable work on the terminology of that science; and his unwearied personal exertions, besides making him perfectly acquainted with all the genera and species found in this vicinity, were lately rewarded by the discovery of a valuable grass, not previously known to exist near Edinburgh. (*Ibid.* Aug. 6.)

The Wheat Fly (*Típula trítici*). — Sir, The wheat crop of this country has been seriously injured for two years past, by maggots destroying the embryo

kernels. Agriculturists generally attribute the disease to atmospheric influence, while, from observation, I was led to assign a fly as its cause, and have preserved maggots to watch their transformations. Last night, in looking into your *Encyclopædia of Agriculture* (§ 6907. fig. 762.), I was agreeably surprised to find drawings of the maggot, perfect insect, and egg. — P. S. *Mungoswells, East Lothian, Aug. 9. 1828.*

Mode of preventing Stacks from taking Fire, where they have been too quickly carted. — In a stack twelve yards long and six wide, pull or bore eight holes about the size of your arm, beginning with your hand, and finishing with an iron rod, having a strong gag at the end, and an auger handle; pull them in a triangular manner, beginning the first row close to the thatch, about a yard from the end, and the second row between the first and the ground. (*Edin. Adv., Aug. 12.*)

Large Artichoke. — There is at present, in the garden of Newbigging, an extraordinary plant of that much esteemed prickly class, the artichoke carduus, with five stems, one of which measures 7 ft. in height, and 5 ft. $\frac{3}{4}$ in. in circumference. Four others measure 6 ft. 10 in. in height, and 5 $\frac{1}{2}$ ft. in circumference each. Many of the leaves of this beautiful plant measure 3 ft. in length; and, to crown all, it has 170 pipes, many of which are in full blossom! (*Mearns Telegraph.*)

IRELAND.

Sir, I observe, in different parts of your Magazine, some remarks on the improvement of Ireland, by means of distributing books of useful knowledge among the working classes. I have no doubt that mode would be attended with the best effects with respect to those who can read, and more especially if accompanied with kind treatment on the part of landlords, and of those who have the more immediate superintendence of country labourers. There are no people in these kingdoms more susceptible of feeling good or bad treatment than the Irish; and I am sorry to say, that, as far as my observation has gone, the workmen on gentlemen's estates are in general very harshly spoken to, and otherwise roughly and even unjustly treated, by stewards and other overseers and managers.

During the two years in which I was in the employ of the late estimable Earl Farnham and his executors at Farnham House, Cavan, I had an opportunity there, and in the neighbourhood, of observing the effects of different kinds of treatment. Earl Farnham and the members of his family observed the most benevolent and exemplary conduct to all around them, and no proprietor could be more, and justly, popular; but some of his managers did not act in the same spirit so entirely as could be wished. An Irish overseer is generally too harsh to his countrymen under him; and this conduct is aggravated, both in idea and in reality, when the former happens to be a Protestant, and the labourers Catholics: for, though the higher classes, and well informed in all ranks, are liberal in their opinions of each other as to religion, this is far from being the case with the ignorant, whatever may be their situation in life.

In managing a very considerable number of labourers at Farnham, I made it a rule of conduct for myself and the man I had as assistant manager, whether in giving orders or in enforcing them, to speak in a mild and encouraging tone, at the same time with sufficient firmness of purpose to accomplish whatever was intended; and on no occasion did I ever speak, or allow him to speak to them, on the subject of religion. I spoke also kindly to their families, when I had occasion to go to their cottages. It happens, sometimes, that the person who pays the labourers, in Ireland, not only commits faults on the wrong side in calculation, but, if his wife keeps a shop of all manner of wares, they are compelled to purchase articles,

sometimes such as they do not want, and at other times at unfair prices. This will be felt by the poor creatures as a grievous oppression, and perhaps the more so as none of them dare mention it to the lord of the soil, on account of the risk of the personal severity of the steward or overseer. Twopence or threepence gained by an overseer in this way, is a grievance which preys upon the mind of the labourer, and lessens all his exertions.

I had not been at Farnham above a month, when the labourers became so attached to me that they would do any thing for me; and so docile, and even clever, that I could easily teach them different sorts of country work to which they had not been accustomed. So much gratified were they at my not interfering about their religion, that the Catholic clergyman soon called upon me to thank me on their parts, and the Protestant clergyman expressed himself equally satisfied. These two gentlemen are most exemplary and conciliatory in their manners, and much respected and esteemed by all classes of both religions. How much the late Earl Farnham was valued, was evident from the immense concourse of people from Cavan and the adjoining counties who assembled at his funeral. I believe, if I had not come away almost secretly, some hundreds would have assembled to take leave of even me. I am led from all this to believe, and to suggest to you, that much improvement may be effected in Ireland, by the proprietors of estates there treating their dependants with kindness, seeing that they have justice done them, and respecting their religious feelings. As many extensive proprietors do not reside on their estates, they cannot attend to these points personally; but I conceive it to be their duty and their interest, to insist on such treatment and conduct, on the part of their agents of every description, from the highest to the lowest. Kind treatment appears to me to be more sensibly felt by, and consequently productive of more happiness in, the labouring classes in Ireland, than in those of either England or Scotland; and the reverse may be said of harsh treatment. I am, Sir, &c.
— *Robert Thompson. Lyne Grove, December, 1826.*

The improvement of Ireland is going on, notwithstanding the many disadvantages under which it labours; but if, as our correspondent mentions, non-resident proprietors would once feel their estates to be their homes, the progress of amelioration, both agricultural and moral, would be rapid. We wish some patriotic English gentlemen would set the example of visiting their Irish estates once a year, and see that every cluster of houses has a Madras school and a labourers' institution and library. Having placed the means of improvement within the reach of the population, the next thing would be to induce them to make use of these means, by holding out the certain future advantages, and by offering immediate marks of distinction, presents of books, trinkets, plants, seeds, &c. (Vol. II. p. 80.), both to parents and children. But it is needless to point out the *means*; let Irish proprietors only determine on effecting the *end*, and all the means will soon suggest themselves. Let them not shelter their consciences under the cover of subscribing to public establishments for improvement, the Dublin Society, Cork Institution, &c., or of returning so much per cent on their rentals. These acts are all good and commendable, but their effect is trifling compared with that which would result from each individual's using his utmost exertions on his own estate.

But reformation seldom takes place, either with individuals or public bodies, from any other cause than that of necessity; and there can be little doubt that the best thing Government could do for Ireland would be to establish there the poor laws of England. — *Cond.*

ART. III. Covent Garden Market.

PRICES FOR THE FIRST AND SECOND WEEKS OF SEPTEMBER.

The Cabbage Tribe.			Pot and Sweet Herbs.		
	From	To		From	To
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Cabbage, White, per dozen	0 0 8	0 0 10	Parsley, per half sieve	0 0 6	0 0 10
Cauliflowers, per dozen	0 2 0	0 3 0			
Broccoli, Cape, per bunch	0 1 0	0 2 0			
<i>Legumes.</i>			<i>Stalks and Fruits for Tarts, Pickling, &c.</i>		
Peas, per half sieve	0 0 8	0 0 9	Vegetable Marrow, per doz.	0 2 0	0 4 0
Kidneybeans, per half sieve	0 0 6	0 1 6	Capiscutas, per hundred	0 0 10	0 1 0
<i>Tubers and Roots.</i>			<i>Fruits.</i>		
Potatoes, per bushel	0 1 6	0 2 0	Apples, Dessert, per bushel	0 6 0	0 12 0
Potatoes, Kidney, per bush.	0 2 6	0 4 0	Apples, Baking, per bushel	0 3 0	0 6 0
Turnips, White, per bunch	0 0 2½	0 0 3	Apples, French, per bushel	0 3 0	0 4 0
Carrots, Young, per bunch	0 0 3	0 0 6	Pears, Dessert, per ½ sieve	0 6 0	0 10 0
Horseradish, per bundle	0 1 6	0 2 0	Peaches, per dozen	0 5 0	0 9 0
Radishes, Red, per doz. hands (24 to 30 each)	0 1 0	0 0 0	Nectarines, per dozen	0 6 0	0 10 0
<i>The Onion Tribe.</i>			Apricots, per dozen	0 2 0	0 4 0
Onions, when green (Cl-boules), per bunch	0 0 2	0 0 3	Plums, Baking, per ½ sieve	0 7 0	0 8 0
Leeks, per dozen bunches	0 1 0	0 1 2	Mulberries, per gal. (8 pots)	0 1 0	0 1 6
<i>Asparagus Plants, Salads, &c.</i>			Pine-apples, per pound	0 5 0	0 7 0
Artichokes, per dozen	0 1 0	0 2 0	Hot-house Grapes, per lb.	0 2 6	0 4 0
Lettuce, Cos, per score	0 1 6	0 0 0	Figs, per dozen	0 5 0	0 6 0
Small Salads, per punnet	0 0 3	0 0 4	Melons, per pound	0 1 0	0 1 6
			Cucumbers, Frame, per doz.	0 0 10	0 1 0
			Cucumbers, Pickling, p. hun.	0 1 0	0 1 3
			Lemons, per hundred	0 7 0	0 8 0
			Brazil Nuts, per bushel	1 4 0	1 6 0

Observations.—In consequence of the showery summer, all kinds of culinary vegetables have been plentiful and cheap. Fruit of all kinds has hitherto come abundantly, notwithstanding the crop of orchard fruit is generally scanty. So much does it vary in quality, however, that it is difficult to fix any thing like a faithful average. — *M.*

ART. IV. Horticultural Society and Garden.

August 5.—Read. A paper on the Application of Hot Water in heating Hot-houses, by Thomas Tredgold, Esq.

Exhibited. Indian Pinks, from Mr. Richard Williams, F.H.S. A collection of Hollyhocks, from Mr. Hugh Ronalds, F.H.S. Seedling Dahlias, a collection of Hollyhocks, and a collection of Heart's-ease, from Mr. James Veitch, F.H.S. Seedling Dahlias, from Mr. Isaac Oldaker, F.H.S. A Flower of *Adenophora grandiflora*, from William Wells, Esq. F.H.S. *Ranunculuses*, from Mr. Henry Groom, F.H.S. A Green-fleshed Melon, from Mr. Thomas Bailey, Gardener to Edward Bouverie, Esq. Gooseberries, from Charles William Hick, Esq. French Crabs, the produce of 1827, from Mr. George Fuller, P.H.S. Ten sorts of Apples, and two sorts of Pears, from Mr. Thomas Gibbs, F.H.S.

Also, from the Garden of the Society. Flowers of *Tagetes lùcida*, *Oenothera Lindlèyi*, *decumbens*, *viminea*, *pàllida*, and *cheiranthifolia*; *Lodaa nitida*, *Gilia capitata*, *Coreopsis tinctoria*, *Agératum mexicanum*, *Verbena Aublètia*, *Lupinus lencophyllus*, *plumòans*, and *lèpidus*; *Collòmia grandiflora*, *Centaurea Cyanus*, China Pinks, *Senècio èlegans flore plèno*, Poppy *Anemones*, *Eschschòltzia californica*, new Bladder Ketmia, Dahlias, Dwarf Dahlias, Anemone-flowered Dahlias, and *Málope malacòides*. Fruits of ten sorts of Gooseberries; Jargonelle and Lammas Pears; Anglaise Tardive Cherries; Providence and Otaheite Pine-apples; eight sorts of Apples; and eleven sorts of Cucumbers.

August 19. — Read. A paper on the Cultivation of the Pine-apple, by Thomas Andrew Knight, F.R.S. President.

Exhibited. A collection of Dahlias and a collection of Hollyhocks, from Mr. James Veitch, F.H.S. A collection of Dahlias, a collection of Hollyhocks, and flowers of *Gèum coccineum*, from Frederick Molling, Esq. F.H.S. A small collection of Dahlias, from Mr. Robert Donald, F.H.S. Fruit of the Egg-plant, from Sadi Ombark Benbey. A bunch of the Black Hamburgh Grape, weighing 14 lbs. 1 oz., from Mr. William Haylor. Seedling Apples, from Dr. Maclean of Colchester. A collection of Apples and Pears, from Mr. Thomas Gibbs, F.H.S.

Also, from the Garden of the Society. Flowers of *Hibiscus africanus*, *Agératum mexicanum*, *Asclèpias tuberosa*, *Málope malacoides*, China Pinks, China Asters, Poppy Anemones, *Eschscholtzia californica*, *Galárdia aristata*, French Marigolds, *Clárkia pulchélla*, *Lupinus leucophyllus*, plumosus, lépidus, áridus, and ornatus; *Ænothèra pallida*, decumbens, vimínea, quadrivúlnera, and Lindlèyi; *Collòmia grandiflora*, *Gília capitata*, *Verbèna Aublètia*; Double, Dwarf, and Anemone-flowered Dahlias. Fruits of Queen and Havannah Pine-apples; Egyptian green-fleshed, Long green-fleshed, and Dutch Rock Melons; ten sorts of Apples; Acton Scot, Grosse Mignonne, and Madeleine de Courson Peaches; Long-purple Egg-plant; *Ribes aureum*, præcox, and aureum serotius.

Sept. 2. — Read. A paper on the Cultivation of Air Plants in Stoves; by Mr. Thomas Fairbairn, F.H.S.

Exhibited. Seedling Dahlias, from Richard Knight, Esq. F.H.S. Dwarf Dahlias, from Mr. John Young, C.M.H.S. Dwarf Double Dahlias, from the Rev. Thomas Garnier, F.H.S. Double Dahlias, Cockscombs, and two sorts of Cucumbers, from John Becher, Esq., F.H.S. Rosanna Peaches from a standard tree, and thirteen sorts of Apples, from Mr. Joseph Kirke, F.H.S. Five sorts of Grapes, from the Rev. Thomas Coney, F.H.S., Walbeck. Seedling, and New Black Jamaica Pine-apple, from Mr. Henry Burn, F.H.S. Early Bowhill Apple, from Messrs. Lucombe, Pince, and Co. Old English Codlin, from Charles William Hick, Esq. F.H.S.

Also, from the Garden of the Society. Italian green-fleshed Melon, Montserrat and Mealy-leaved Sugar-loaf Pine-apple, eight sorts of Apples, Williams's Bon Chrétien Pear, seven sorts of Peaches, and four sorts of Nectarines. Flowers of *Collòmia grandiflora*, *Centaurea americana*, *Hibiscus africanus*, *Agératum mexicanum*, *Coreópsis tinctoria*, China Pinks, China Asters, French Marigolds, Poppy Anemones, *Eschscholtzia californica*, *Pentstemon procerum*, *Clárkia pulchélla*, *Gília capitata*, *Ænothèra Lindlèyi*, decumbens, quadrivúlnera, and vimínea; Double, Dwarf, and Anemone-flowered Dahlias; *Lupinus leucophyllus*, plumosus, ornatus, lépidus, and áridus.

ART. V. *Provincial Horticultural Societies.*

YORKSHIRE.

THE Yorkshire Horticultural Society held their Summer Meeting in Leeds, on July 2d, and upon no occasion, we believe, has any of its Meetings been of a more interesting character, either as to the quantity and quality of the vegetables and fruits, or the beauty and variety of the flowers. The day being remarkably fine, a numerous company of the gentry of the town and neighbourhood, consisting principally of ladies, attended to witness the gratifying appearance of the rooms, and the distribution of the prizes to the various competitors. The Rev. J. A. Rhodes, M.A., of Horsforth Hall, hav-

ing been called to the chair, introduced the business of the Meeting in a very appropriate address, during which, he remarked upon the cheering circumstance of a member of the Society having obtained a medal from the London Horticultural Society, which he characterised as being likely to produce a very useful and laudable competition among the gardeners to obtain a similar honour. The Society, he said, had now established a branch in connection with it at Wakefield, and another at York; so that it might now, perhaps for the first time, with propriety adopt the appellation of The Yorkshire Society. This was a very important alteration, and he had no doubt the most beneficial results would accrue from it, and the Society become a most influential one in consequence, as there were then present members from Wakefield, and members from York. He should now proceed to bestow such prizes as the judges had thought proper to award.

Fruit. For the best pine, to Wm. Ashton, gardener to B. Gaskall, Esq. Thorn's House, Wakefield; and for the second best, to Thomas Deuxberry, gardener to the Rev. J. A. Rhodes, Horsforth Hall. For the best melon, to Wm. Campbell, gardener to H. Teal, Esq., Stourton Lodge. For the best white grapes, to J. Brown, Gardener to J. Hebblethwaite, Esq.; for the second best, to Ralph Hopps, gardener to W. Gott, Esq., Leeds. For the best black grapes, to Thomas Deuxberry; for the second best, to Joseph Moore, gardener to T. B. Pease, Esq., Chapel Allerton. For the best peaches, to Joseph Moore. For the best nectarines, to Thomas Deuxberry. For the best figs, to W. Baines, gardener to Hawksworth Fawkes, Esq., Farnley Hall. For the best oranges, to Wm. Baines. For the best cherries, to John Menzies, gardener to C. Rawson, Esq., Halifax. For the best strawberries, and best raspberries, to Thomas Appleby, market-gardener, Leeds. For the best gooseberries, to Mr. Hick, of Benningbrough, near York. For the best lemons, to Wm. Ashton. For the best currants, to Mrs. Kennedy, North Hall nursery.

Culinary Vegetables. For the best cucumbers, to John Cockerline, gardener to Richard Lacy, Esq., Rigton Hall, Ripley; for the second best, to Wm. Baines.

Mr. Hadfield presented specimens of two sorts of seedling strawberries, which were very much approved of.

Pinks. *Brown-laced:* 1. W. Riley; 2. Geo. Pickersgill; 3. W. Clark. *Red-laced:* 1. W. Clark; 2. John Smith, gardener to the Rev. L. Hird; 3. W. Riley. *Dark-eyed:* 1. W. Hudson; 2. John Smith; 3. W. Hudson. *Seedlings:* 1 and 2. W. Riley; 3. W. Clark.

Ranunculuses. *Edged:* 1. John Clayton; 2. W. Chadwick. *Striped:* 1. John Smith; 2. W. Chadwick. *Spots and mottled:* 1. W. Chadwick; 2. J. Clayton. *Sels:* 1. John Clayton; 2. John Smith.

Roses. For 104 species, to Mr. Baines, gardener to Messrs. Backhouse.

Dahlias. For the best, to Joseph Deuxberry.

Bouquet. *Hardy:* 1. John Turner, gardener to John Burton, Esq., Roundhay; 2. John Menzies; 3. John Barrett, nurseryman, Wakefield. *Exotic:* Mr. Baines, at Messrs. Backhouse's.

For the rarest and best stove and green-house plants, prizes were awarded to Mr. Thomas Heselgrave, near Wakefield, for a fine specimen of the *Gloxinia speciosa alba*; and to Mr. Joseph Moore, for a fine specimen of *Musa coccinea*. Premiums were awarded to Mrs. Kennedy of North Hall, Mr. Joseph Marshall of Rothwell Haigh, and to Mr. Appleby of Leeds, for their exhibition of exotics. Amongst the rare hardy plants for which a prize was adjudged to Mr. Baines, gardener to Messrs. Backhouse of York, were the following: — *Clárkea pulchélla*; *Gília capitata*; *Mí-mulus lùteus*; *M. moschátus*; *Martýnia proboscídea*; *Valerianélla congésta*; *Ænothèra Romanzòvii*, &c. In Mr. Baines's exotic bouquet were *Calceolària rugòsa*, *C. corymbòsa*, *Crássula coccínea*, *Lechenaúltia formòsa*, &c. Miss

Smyth, of Bramham, exhibited a very fine specimen of the bread tree, and two beautiful specimens of the *Magnolia grandiflora*. An improved coop, for the purpose of breeding and rearing young pheasants, partridges, &c., sent by Richard Lacy, Esq., of Cayton Hall, near Ripley, was exhibited to the Meeting, and much approved. (Vol. III. p. 124.) A specimen of woollen nets also, for the purpose of preserving fruit trees from the weather and insects, was exhibited by a resident of Yeadon, near Leeds. The Chairman remarked that he had seen them in use, and, in his opinion, they answered the purpose for which they were intended. In distributing the prizes to the successful candidates, the Chairman indulged in a variety of judicious remarks, calculated to excite emulation, and produce a spirit of fair and honourable competition.

The judges of fruits and bouquets were, Messrs. Pontey of Kirkheaton; Carver of Wakefield; and Jamieson, at Lady Beckett's, Gledhow. For flowers, Isaac Hollings, Esq., of Manningham, near Bradford; Messrs. Bradbury of Burley; and Henry Baines of York.

On the conclusion of the business, the Chairman shortly addressed the company, and announced that the next Meeting would be held in Wakefield, in the month of August next. (*York Herald*, July 5.)

The York Florists' Society held their Annual Show of Pinks and Roses, in Petergate, on July 3d, when the prizes were adjudged as follows: —

Pinks. Dark and purple-laced: 1. Bowes's Cato, 2. Gladiator, 3. Cato, 4. Wilson's Seedling, and 5. Bowes's Lustre, Mr. Wilson. *Red-laced:* 1. Green's Princess of Wales, Mr. Parker; 2. Bowes's Suwarrow, 3. Cobbett's Lady Cobbett, and 4. Bowes's Suwarrow, Mr. Wilson; 5. Bond's Stranger, Mr. W. Hardman. *Plain:* 1 and 2. Eclipse, Mr. Wilson; 3. Hardman's No. 50., Mr. W. Hardman; 4. Davey's Eclipse, Mr. Parker; 5. Davey's Eclipse, Mr. Wilson.

Roses. Coloured: 1. Semidouble Provence, and 2. Sultan, Mr. Parker; 3. Grand duc de Toscanie, Mr. Summer. *White:* 1, 2, and 3. Wood Nymph, Mr. Parker. (*Ibid.*)

The second General Meeting of the Ripon Horticultural Society was held at the Town Hall there on the 20th of June. The spacious and elegant room, in which the exhibition took place, was thrown open to the public at two o'clock, and was instantly completely filled. The company assembled comprised a large majority of the neighbouring nobility and gentry. William Morton, Esq., the Mayor of Ripon, on being called to the chair, proceeded to address the Meeting, by congratulating the Society on its flourishing state, and remarked that whether the splendid display of fruit, the high state of perfection of vegetables and roots, or the beauty and variety of the flowers and plants then exhibited, were considered, they must equally excite admiration, and afford the most convincing proofs of the talents and skill of the amateurs and gardeners who produced them. His Worship then, after alluding to the variety and excellence of the articles exhibited both at this and the former Meeting, concluded his address in nearly the following words: — "Surely, then, we have abundant cause of congratulation, and may look forward to future Meetings with renewed hope, and with increased pride and satisfaction. There is one circumstance which, above all others, gives a peculiar zest to the pleasures and enjoyments of all meetings, and that is the presence and support of the ladies. Having been called to this chair very unexpectedly, and on short notice, I am apprehensive that I may have been guilty of some omissions; but I will assure you, ladies and gentlemen, that there is nothing for which I should feel myself more justly deserving of censure, than if, on this occasion, I omitted to offer our best thanks to those ladies who have honoured this Meeting by their presence. Under their kind patronage we must continue to prosper." The Chairman then proceeded to announce the distribution of the prizes, and to offer the thanks of the company to those individuals who had supplied plants and fruits for

the decoration of the room. These contributions were numerous and splendid. Amongst other plants, &c., thus supplied, were the following: — An elegant bouquet of white moss roses, containing 20 blooms, from the gardens at Sleningford Hall. A fine plant of the yellow sweet-scented China rose, in full bloom, from the gardens at Cayton Hall. Some fine double balsams, belonging to Mr. Edward Nicholson, of Cayton. *Kalmia latifolia* var. *alba*, a yellow sweet-scented China, and a mossy De Meaux rose, all in pots, and in fine bloom, belonging to Mr. Weatherald, of Mickley. A splendid collection of new geraniums, belonging to Mr. May, of the nursery, Pickhill; and the following rare and new green-house plants, from the same place: — *Calceolària corymbosa*, *Calceolària integrifolia*, *Calceolària rugosa*, *Thunbergia alata* (a very handsome green-house creeper, which continues to bloom the greatest part of summer, and has never less than from 10 to 20 flowers upon it, of a rich cream colour, with a dark purple eye), *Petunia nycaginiflora*, *Primula sinensis* var. *alba*, *Crassula coccinea*, *Crassula versicolor*, and *Nerium splendens*. All these being tastefully arranged and intermixed with the flowers exhibited for prizes, which exceeded 300 in number, formed a most beautiful exhibition, perhaps never exceeded, and seldom equalled on the first establishment of an institution of this nature. The fruits and vegetables also were very numerous, and of the first quality, and were universally admired. Numerous additional subscribers were enrolled members of the Society; and the unprecedented success which has attended it since its commencement, leaves every reason to hope that it will continue to prosper, and become one of the most flourishing establishments of the kind in the north of England.

The Ripon Florists' Society, which is now established at that place, in addition to the Ripon Horticultural Society, held their first Meeting on the 26th of June, when prizes were awarded for the following flowers: —

Pinks. First class: 1. Bowes's Suwarrow, Mr. T. Harrison; 2. Bowes's Cato, Mr. T. Grayson. Second class: 1. Bowes's Rosa, Mr. Mafham; 2. Bowes's Rosa, Mr. J. Binns. Third Class: 1. Gorton's George the Fourth, Mr. T. Grayson; 2. Rushton's Beauty of Flora, Mr. Clarke.

Roses. *Tuscany*: 1. Mr. T. Grayson; 2. Mr. Mafham. *Red*: 1. Mr. Clarke; 2. Mr. Mafham. *White*: 1. Mr. Mafham; 2. Mr. Whytell. (*York Herald*, July 5.)

The Bedale Horticultural Society held a Meeting on the 28th of June last, and the prizes were awarded as follows: —

Pinks. *Purple-laced*: 1. Bowes's Suwarrow, Mr. W. Masham; 2. Bowes's Suwarrow, Mr. Whitton; 3. Bowes's Cato, Mr. Hewson. *Red-laced*: 1. Pendleton's Miss Foote, Mr. May; 2. King George the Fourth, Mr. Spence; 3. Keen's Duchess of Wellington, Mr. Whitton. *Plain*: 1. Rushyford's Beauty of Flora, Mr. Sanderson; 2. Rushyford's Beauty of Flora, and 3. Incomparable, Mr. May. *Seedling*: Mr. Hewson.

Geraniums. *Light Grounds*: 1. Macranthon, Mr. Hewson; 2. Granditurn, and 3. Fair Lenia, Mr. May. *Dark Grounds*: 1. William the Conqueror, Mr. May; 2. Countess of Tyrconnel, and 3. Ignescens minor, Mr. Hewson.

Fruits. *Cherries*: 1. Mayduke, Mr. Dauris, gardener to M. Milbanke, Esq. M. P.; 2. May Duke, Mr. Hewson, gardener to Miss Peirse; 3. Mr. Montey. *Strawberries*: First class: 1. Keen's Seedling, Mr. Dauris; 2. Keen's Seedling, and 3. Bostock's Seedling, Mr. Caven. Second class: 1. Roseberry, and 2. Lovel's Scarlet, Mr. Montey; 3. Carolina, Mr. Hewson. *Melons*: Early Cantaloup, Mr. Montey. *Oranges*: Mr. T. Robinson, gardener to the Marquess of Cleveland. *Currants*: Mr. T. Robinson.

Mr. May exhibited a beautiful specimen of Wilmot's Superb strawberry, one of which measured five inches and a half in circumference. (*York Herald*, July 5.)

DURHAM, NORTHUMBERLAND, &c.

The Botanical and Horticultural Society of Durham, Northumberland, and Newcastle upon Tyne, held a Meeting in Newcastle, on June 13th, when the following prizes were awarded:—

The gold medal to Mr. Joseph Clarke, gardener to Mrs. Bewicke, of Close House, for a superb dish of grapes; and the bronze medal for the second best dish of potatoes. The silver medal to Mr. Thos. Watson, gardener to James Kirsopp, Esq. of the Spittal, for the best dish of potatoes; and the bronze medal for the second best dish of peas. The silver medal to Mr. Balfour, gardener to Earl Grey, for the best dish of peas. The silver medal to Mr. Bates of Kenton, for the best white-ground tulip, *Ceres prima*; and the bronze medal to Mr. Moody, of Sunderland, for the second best tulip, *General Loftus*. The silver medal to Mr. Lawson, gardener to Matthew Bell, Esq., for the best bouquet; and the bronze medal to Mr. Cook, gardener to Miss Simpson, of Bradley Hall, for the second best bouquet. There was a most elegant plant of *Cactus speciosa*, from the greenhouse of Mr. Falla, in full flower; and a Myrtle-leaved Orange, full of beautiful fruit; and several plants of *Amaryllis*, from the garden of J. G. Clarke, Esq., of Fenham. Some of the largest and most superb scarlet Brompton stocks ever seen, were exhibited by Mr. Bates, of Kenton. The bouquets exhibited for the silver medal were very numerous, and met the admiration of a very large assemblage of ladies and gentlemen. The competition was so great that the Committee were induced, in addition to the silver medals for the best, to give bronze medals for the second prizes.

A Meeting was also held in Durham, June the 10th, when the following prizes were awarded:—

The silver medal to Mr. Thos. Pape, gardener to the Rev. the Dean of Chester, Stanhope, for the best dish of grapes. The silver medal for the best dish of potatoes, and another silver medal for the best dish of peas, to the Rev. J. Fawcett, Newton Hall. The silver medal and the bronze medal to Mr. Harrop, of Sunderland, for the first and second white-ground tulips, *Bienfait Incomparable*, and the *Rose Triumph Royale*. The silver medal to Mr. Avery, gardener to W. T. Salvin, Esq., of Croxdale, for the best bouquet of flowers; and the bronze medal to Mr. Harrop, of Sunderland, for a most superb collection of scarlet and white Brompton stocks. There were also two very fine ones, from the garden of Mr. Humble, which were much admired. It was pleasing to see so good an exhibition at Durham this year, and it is to be hoped that the subscribers in the neighbourhood will do every thing in their power, by sending flowers and other articles, to increase the attraction.

A General Meeting was held in Newcastle, by the above Society, on the 11th of July, when the following prizes were awarded:—

For the best dish of strawberries, of sorts named, the silver medal, to Mr. James Fenwick, gardener to John Anderson, Esq., Jesmond House. For the best dish of cherries, of sorts, the silver medal, to Mr. John Ward, gardener to Charles John Clavering, Esq., Axwell Park. For the best three double scarlet Brompton stocks, the silver medal, to Lieut. West, R. N., Jesmond. For the twelve best ten week and twelve Russian stocks, of sorts, the silver medal; and for the best bouquet of annual flowers, the silver medal, to Mr. Henry Newton, Newcastle. For the best double balsam, the silver medal, to Mr. Joseph Clarke, gardener to Mrs. Bewicke, Close House. For the best six ranunculuses, of sorts, the silver medal; and for the best twelve double roses, of sorts named, the silver medal, to Mr. John M'Queen, gardener, Scots House. For the best six double pinks, of sorts named, the silver medal, to Mr. Matthew Bates, Kenton. For the best bouquet of hardy perennial flowers, the silver medal, to Mr. Falla, Gateshead. For a most splendid bouquet of flowers, of different sorts, exhibited by Mr. T. Cook, gardener to Miss Simpson of Bradley Hall, the judges

voted him the silver medal. The exhibition, especially of strawberries and bouquets of flowers, was extremely fine. There were the following gratuitous exhibitions:—A magnificent specimen of *Nerium splendens* fl. pl., in fine blow, from the green-house of Dr. Headlam, Jesmond Dean; some fine double dahlias, from Mr. Henry Newton, Newcastle; a fine plant of *Petunia nyctaginiflora*, and some beautiful blossoms of *Nymphaea alba*, from the garden of J. C. Anderson, Esq., Point Pleasant; a very fine bouquet of beautiful and rare exotics, from Mrs. Losh, Jesmond; a hybrid passion flower, from Mr. J. M'Cleish, gardener to A. J. Cresswell Baker, Esq., Cresswell; some uncommonly large leaves and stalks of rhubarb (a seedling variety), from Mr. John Lister, Gateshead. A very large party of the members and their friends honoured the Meeting with their presence.

On the 15th of July *the above Society held a Meeting at Hexham*, for the convenience of members residing there and in the neighbourhood, when the following prizes were awarded:—

For the best dish of strawberries, of sorts named, and for the best six double pinks, named, silver medals, to Mr. Robert Charlton, Wall. For the best dish of cherries, of sorts named, the silver medal, to Mr. George Robson, gardener to Nathaniel Clayton, Esq., of Chesters. For the best three scarlet Brompton stocks, for the best twelve ten week stocks, and for the best twelve double roses, of sorts named, silver medals, to Mr. James Scott, gardener to Edward Charlton, Esq., of Sandoe. For the best double balsam, the silver medal; and for the best twelve Russian stocks, the silver medal, to Mr. Thomas Watson, gardener to R. L. Allgood, Esq., of Nunwick. For the best bouquet of perennial flowers, and the best bouquet of annual flowers, silver medals, to Mr. Thomas Watson, gardener to James Kirsopp, Esq., Spital. Two very fine pines (a Providence and a Queen) were exhibited by Mr. William Grey, gardener to Thomas James, Esq., Beaufront. The stocks and roses, and the bouquets of flowers, were very numerous and beautiful. The Meeting was large and most respectable.

At the *Society's Anniversary Dinner* the table was tastefully decorated with vases of beautiful flowers, as was the room also. The dessert was beyond precedent exquisite, beautiful, and most abundant, consisting of eighty-four dishes, amongst which were five very fine pines, four from the garden of M. J. Davison, Esq., of Beamish, and one from the garden of Edward Charlton, Esq., of Sandoe. There were several very fine melons, and an abundance of grapes, peaches, nectarines, apricots, plums, apples, gooseberries, currants, &c. The following is a list of the contributors to the dessert:—The Right Honourable Lord Ravensworth, Ravensworth Castle; Mrs. Bewicke, Close House; the Honourable H. T. Liddell, M.P., Eslington; Matthew Bell, Esq. M.P., Wool-sington; A. J. Cresswell Baker, Esq., Cresswell; R. L. Allgood, Esq., Nunwick; Thomas Fenwick, Esq., South Hill; John Anderson, Esq. Jesmond; Shakespeare Reed, Esq., Thornhill; Robert Shaw, Esq., Usworth Place; J. C. Anderson, Esq., Point Pleasant; Henry West, Esq., Jesmond; John Hodgson, Esq., Elswick; Mr. Laidler, Gloucester House; Mr. Thomas Cook, Bradley Hall, &c. &c. Matthew Culley, Esq., Coupland Castle, was in the chair, and J. C. Anderson, Esq., Point Pleasant, in the vice-chair. Several appropriate toasts and sentiments were given, and the style in which the whole went off was most gratifying to the well-wishers of the Society. Messrs. Nixons and Moore were in attendance, and sang several fine glees in very excellent style: there was also some fine amateur singing during the evening. Among the party were the following gentlemen;—Matthew Culley, Esq., Coupland Castle (chairman); George Silvertop, Esq., Minster-acres; Charles William Bigge, Esq., Linden House; John Hodgson, Esq., Elswick; — Pullein, Esq.; Captain Cook, Newton Hall; J. C. Anderson, Esq., Point Pleasant (vice-president); Henry West, Esq., Jesmond; Sir R. S. Hawks, &c. Previously to the dinner, the Anniversary Meeting was

held at two o'clock, John Hodgson, Esq., Elswick, in the chair, when the prize medals were distributed to the successful competitors present, to whom they had been awarded during the past year. The report for the past year was presented to the Chairman, and ordered to be distributed to the members of the Society. Twenty-six new members were then elected, sixteen of the first class, eight of the second class, and two of the third class; which must prove to every one the increasing interest that is excited in the neighbourhood by this most excellent and flourishing institution. (*Newcastle Courant*, June 14. 19. Aug. 16.)

The Stamfordham Florists held their Show of Tulips, on May 28th, when the prizes were adjudged as follows:—

Whites: 1. Rose Triumph Royale, Mr. W. Goodfellow; 2. Pearl Blanch, and 3. Princess Imperial, Mr. Johnson; 4. Belle Actres, and 5. Hercules, Mr. Hedley. *Yellows*: 1. Maddox's Yellow, Mr. H. Goodfellow; 2. Bell's Financier, Mr. W. Goodfellow; 3. Suprema Superfine, Mr. Johnson; 4. Black Prince, and 5. Bell's King, Mr. Hedley.

On the 26th of June *the above Society* held their Show of Ranunculuses, when the prizes were adjudged as follows:—

1. Aristides, and 2. Naxares, Mr. Hall; 3. Mélange de Beauté, Mr. H. Goodfellow; 4. Grand Burgher, Mr. Johnson; 5. Mrs. Fitzherbert, Mr. Hall. (*Ibid.*, June 14. July 19.)

The Darlington Florists' and Horticultural Society held their first Spring Meeting at the Green Tree Inn, on the 21st May, when prizes were adjudged as follows:—

Tulips. Feathered Bizards: 1 and 2. Mr. Petty; 3. Mr. Stephenson. *Flamed Bizards*: 1 and 2. Mr. Lawson; 3. Mr. Beckwith. *Feathered Bybloemens*: 1. Superfine, Mr. Lawson; 2 and 3. Mr. Beckwith. *Flamed Bybloemens*: 1. Roi de Prusse, 2. Cerise, and 3. Reine de Congo, Mr. Lawson. *Feathered Roses*: 1. Do-little, Mr. Lawson; 2 and 3. Zion, Mr. Stephenson. *Flamed Roses*: 1 and 2, Mr. Petty; 3. Mr. Beckwith. *Doubles*: 1. Marriage de ma Fille, Mr. Beckwith; 2 and 3. Supreme, Mr. Stephenson. *Selfs*: 1. Mr. Lawson; 2. Mr. Petty; 3. Mr. Beckwith. *Double Yellows*: 1. Mr. Longstaff; 2. Mr. Petty.

Exotics: 1. Calceolària rugòsa, Mr. Lawson; 2. *Erica perspicua*, and 3. *Erica vestita fùlgida*, Mr. Watson.

Geraniums. Scarlet Grounds: 1. Davyànum, and 2. Augùsta coccínea, Mr. Lawson; 3. Davyànum, Mr. Cummins. *White Grounds*: 1. Macránthon, 2. Coronation, and 3. Prince of Orange, Mr. Lawson. *Purple Grounds*: 1. Royal George, Mr. Stephenson; 2. Lady Haggerston, and 3. Purple Sovereign, Mr. Lawson. *Selfs*: 1. Basilisk, Mr. Lawson; 2. Cape Scarlet, Mr. Cummins. *Seedlings*: 1. Mr. Lawson. *Double Anemones*: 1. Mr. Lawson; 2. Mr. Boydes; 3. Mr. Lawson.

Culinary Vegetables. Hardy Broccoli: 1. Mr. Lawson. *Brace of Cucumbers*: 1. Mr. Beckwith, gardener to Jacob Maude, Esq. Selaby Hall; 2. Mr. Stephenson, gardener to Joseph Pease, Esq., South End, Darlington; 3. Mr. Lawson, gardener to James Backhouse, Esq., West Lodge, Darlington. *Dish of Asparagus*: 1. Mr. Scott, King's Head Inn, Darlington. *Dish of Potatoes*: 1. Mr. Wallas, gardener to Jonathan Backhouse, Esq., Polam Hill, near Darlington. *Two Heads of Cauliflower*: 1. Mr. Lawson, gardener to James Backhouse, Esq. *Brace of Cabbage*: 1. Mr. Beckwith, gardener to Jacob Maude, Esq. *Lettuce*: 1. Mr. Beckwith.

The above Society intend in future to hold their Meetings in the Town Hall of Darlington, it being offered gratis by the gentlemen of that place, who have recently come forward very liberally in their subscriptions, in aid of the Darlington Horticultural Society. (*Ibid.*, June 14.)

The Morpeth Florists' Society held their Annual Tulip Show on the 29th of May, when the prizes were awarded as follows:—

Rose-coloured: 1. Rose Triumph Royale, and 2. Cerise Primo, Mr. John

Hindhaugh; 3. La Brillante Eclatanta, and 4. Cerise Triumphant, Mr. R. Lewins; 5. Mantue Ducal, Mr. John Hindhaugh. *Violet-coloured*: 1. Grand Alexander, Mr. Hindhaugh; 2. Constant, Mr. M'Lellan; 3. Atlas Secundus, Mr. Barrow; 4. Ursina minor, Mr. John Dickson; 5. Roi de Pegu, Mr. Hindhaugh. *Yellows*: 1. Glòria mûndi, Mr. John Dixon; 2. Goudbeures, Mr. Barrow; 3. Grandeur du Monde, Mr. Barry; 4. Liquirus, and 5. General Murray, Mr. John Hindhaugh. (*Newcastle Courant*, June 14.)

On the 10th of July *the above Society* held their Annual Show of Pinks, when prizes were awarded as follows:—

1. Davy's Earl of Uxbridge, 2. Barnard's Bexley Beauty, and 3. Davy's Agrippina, Mr. John Dixon; 4. Davy's Prince Leopold, Mr. Hindhaugh; 5. Davy's Eclipse, Mr. John Dixon. (*Ibid.*, June 14. July 19.)

The Hendon Independent Florists held their Annual Show of Tulips, on the 9th of June, when the prizes were adjudged as follows:—

1. Grand Primeure Belle, Mr. Thomas Hull; 2. Licentia, Mr. Matthew Patten; 3. General Washington, Mr. William Moody; 4. Violet Imperial, Mr. C. North; 5. Grande de Touachatte, Mr. John Hull. (*Ibid.*)

Adam's Lodge of Free Gardeners, at Sunderland, held their Annual Show of Tulips, at Brother Lambert's, Gardeners' Tavern, June the 5th, when the prizes were adjudged as follows:—

1. Rose Royale, and 2. Belle Actres, Brother Moody; 3. Triumph Royale, Brother Hull; 4. Madame de Pompadour, Brother Moody; 5. Triumph de Europe, Brother Davison. Brother Rutter, gardener to Shakespeare Reed, Esq., Thornhill, exhibited a dish of very fine new potatoes, from the open ground, and a most beautiful cauliflower of an immense size. (*Ibid.*)

The Wearside Florists held their Annual Show of Pinks on the 5th of July, when the prizes were adjudged as follows:—

1. Bar's Princess Charlotte, Mr. A. Foster; 2. Smith's Mistake, Mr. Wm. Storey; 3. Right Hon. G. Canning, Mr. Thos. Adamson; 4. Brooke's Eclipse, and 5. Reed's Duke of Portland, Mr. G. Hutchinson, who also exhibited two very fine seedlings, which were named Hutchinson's Miss Wade, and Hutchinson's Miss Morris. (*Ibid.*, July 19.)

The Heworth Society of Florists held their Annual Show of Pinks, at Mr. Thos. Dixon's, on July 8., when the prizes were adjudged as follows:—

1. Davy's Queen Charlotte, 2. Fawcett's Lady Byron, and 3. Davy's Lady Milbanke, Mr. A. Bouglas; 4. Hilby's Fair Phillis, Mr. G. Boiston; 5. Bates's Overall, Mr. M. Robson.

On August 5. *the above Society* held their Annual Meeting for the Show of Carnations and Picotees, when prizes were adjudged as follows:—

Carnations. 1. Hutchinson's Lady Ridley, 2. Dobson's Lady Collingwood, and 3. Clarke's Mrs. Beadon, Mr. Andrew Bouglas; 4. Hawkin's Lord Amherst, Mr. G. Boiston; 5. Pope's London Queen, Mr. A. Bouglas.

Picotees. 1. Pike's Defiance, Mr. Andrew Bouglas; 2. Boiston's Lovely Anne, Mr. George Boiston; 3. Beauty Bailey, Mr. Michael Robson; 4. Barlow's Rose Leaf, and 5. Kenny's Incomparable, Mr. Andrew Bouglas.

After the adjudgment of the flowers, the members, accompanied by numerous friends, sat down to an excellent supper, and the evening was spent with the greatest conviviality. (*Ibid.*, July 19. August 16.)

At a Pink Show, held at Gateshead Low Fell, the prizes were adjudged as follows:—

1. Lord Wellington, Mr. R. Carr; 2. Bar's Princess Charlotte, Mr. M. Fleck; 3. Brookes's Eclipse, Mr. J. Pattison; 4. Davy's Eclipse, Mr. J. Glover; 5. Bates's Freeholder, Mr. J. Pattison. (*Ibid.*, July 19.)

The Kenton Florists' Society held their Annual Show of Pinks on the 12th of July, when the prizes were adjudged as follows:—

1. Roxley's Beauty, Mr. W. Teasdale; 2. Princess Charlotte, Mr. John Kirkley; 3. Prince Leopold, Mr. W. Teasdale; 4. Brookes's Eclipse, Mr. Henry Eltringham; 5. Bates's Freeholder, Mr. Andrew Buckham. (*Ibid.*)

The Kenton Bar Annual Show of Carnations, Picotees, and Gooseberries was held on August 2., when the prizes were adjudged as follows: —

Carnations. 1. Sherwood's Corinthus, and 2. Godwin's Lord Nelson, Mr. John Menham; 3. Sandham's Lady Kay, Mr. William Teasdale; 4. Haycock's Salop Hero, Mr. John Menham; 5. Lady Ridley, Mr. Andrew Buckham.

Picotees. 1. Bates's Sir Robert Wilson, 2. Will Stukeley, 3. Pearson's Seedling, 4. Prince of Picotees, and 5. Clear the Way, Mr. John Menham.

Gooseberries. 1. Crown Bob, 19 dwts. 21 grs., Mr. William Richardson; 1. Lay's Golden Queen, 14 dwts. 15 grs., Mr. John Menham; 1. Green Ocean, 14 dwts. 12 grs., Mr. William Gray; 1. Smiling Beauty, 14 dwts. 4 grs., Mr. John Menham. (*Newcastle Courant*, Aug. 16.)

The Alnwick Annual Show of Gooseberries, Carnations, and Picotees was holden on the 31st of July, when the prizes were adjudged as follows: —

Gooseberries. *Reds:* 1. Roaring Lion, and 2. Prince Regent, Messrs. W. and J. Newton; 3. Brotherston's Huntsman, and 4. Bonny Invincible, Mr. William Mabon. *Yellows:* 1. Forbes's Golden Chain, and 2. Rockwood, Mr. J. Wilkin; 3. Cottage Girl, and 4. Gorton's Viper, Messrs. W. and J. Newton. *Greens:* 1. Brigg's Independent, Mr. Matthew Brewis; 2. Jolly Angler, Messrs. W. and J. Newton; 3. Green Ocean, Mr. B. Gibson; 4. No Bribery, Mr. J. Wilkin. *Whites:* 1. Rockgetter, Mr. W. Mabon; 2. Laver's Reformer, and 3. Lady Delamoor, Messrs. W. and J. Newton; 4. Yates's Thrasher, Mr. W. Mabon.

Carnations. 1. Duchess of Newcastle, Mr. B. Gibson, gardener to General Grey; 2. Harvey's Lord Ravensworth, and 3. Waterman's Caroline, Mr. William Mabon; 4. Sandham's Lady Kay, Mr. A. Oliver, gardener to the Hon. H. T. Liddell, M. P.; 5. Farnham, Mr. Balfour, gardener to Earl Grey.

Picotees. 1. Lindsay's Duchess of Northumberland, Mr. J. Lindsay; 2. Robson's Star of Eslington, Mr. A. Oliver; 3. Barlow's Rose-leaved, Mr. B. Gibson; 4. Lindsay's Dairy Maid, Mr. J. Lindsay; 5. Yellowley's Lady Ravensworth, Mr. A. Oliver. *Seedlings:* 1 and 2. Mr. A. Oliver; 3. Mr. W. Pringle, gardener to Sanderson Ilderton, Esq.; 4 and 5. Mr. J. Lindsay.

The thanks of a numerous and respectable meeting were given to Messrs. W. and J. Newton, for producing the improved Royal Emperor Cabbage, weighing 30 lbs. (*Ibid.*)

At a Meeting of the Botanical and Horticultural Society of Hexham, held on the 4th of August, for the exhibition of Carnations, Picotees, and Gooseberries, the prizes were adjudged as follows: —

Carnations. 1. Plummer's Prince Cobourg, Mr. Robert Charlton, Wall; 2. Sandham's Lady Kay, Mr. Robert Grey, Humshaugh; 3. Walker's Ruby, Mr. James Scott, Sandhoe; 4. Smalley's Foxhunter, Mr. Robert Grey, Humshaugh; 5. Beck's Friendship, Mr. Thomas Watson, Spittle.

Picotees. 1. Grey's Victory (a seedling), Mr. Robert Grey, Humshaugh; 2. Pearson's Maria, 3. Kenny's Incomparable, and 4. Huffton's Will Stukely, Mr. R. Charlton, Wall; 5. Rosalia de Rahone, Mr. James Scott, Sandhoe.

Gooseberries. 1. Brotherston's Huntsman, 18 dwts. 5 grs., Mr. James Scott, Sandhoe; 2. White Rock, 15 dwts. 14 grs., Mr. John Grey, Humshaugh; 3. Green Ocean, 15 dwts. 12 grs., and 4. Gorton's Viper, 14 dwts. 22 grs., Mr. George Robson, Chesters. (*Ibid.*)

The Whittingham Vale Florists' Society held their Annual Show of Gooseberries, Carnations, and Picotees on the 5th of August, when the prizes were adjudged as follows: —

Gooseberries. *Reds:* 1. Roaring Lion, 2. Prince Regent, 3. Newton's Mount Etna, and 4. Huntsman, Messrs. Newton, Alnwick. *Yellows:* 1. Rockwood, 2. Cottage Girl, and 3. Viper, Messrs. Newton; 4. Neilson Wave, Mr. Rutherford, Callaly. *Greens:* 1. Brigg's Independence, Mr.

Brewis, Alnwick; 2. No Bribery, Messrs. Newton; 3. Bowman's Lively Green, and 4. Green Ocean, Mr. Brewis, Alnwick. *Whites*: 1. Reformer, 2. Smiling Beauty, 3. Denny Triumphant, and 4. Cheshire Lass, Messrs. Newton.

Carnations. 1. Harvey's Lord Ravensworth, and 2. Sherwood's Corinthus, Mr. A. Oliver, gardener to the Hon. H. T. Liddell, M. P., Eslington; 3. Pope's London Queen, Mr. Curry, jun., Brandon; 4. Cartwright's Lady Byron, Mr. A. Oliver; 5. Hand's Prince of Wales, Mr. Curry, jun. Mr. A. Oliver produced two seedling carnations, which are seldom produced, and named them Whittingham's Glory and Eslington Triumphant.

Named Picotees. 1. Miss Seymour, 2. Glòria Múndi, 3. Lady Normanby, 4. Lady Williamson, and 5. Miss Maria Liddell, Mr. A. Oliver. All those picotees are of his own raising.

Seedling Picotees. 1. Florantia, and 2. Fair Eleanor, Mr. A. Oliver; 3. Omnium Bonum, Mr. Curry; 4. Scott's Speculation, Mr. J. Scott, Whittingham; 5. Bowden's Chance, Mr. W. Bowden, Whittingham. (*Ibid.*)

WESTMORELAND.

The Kendal Mechanics' Berry Show took place on the 2d of August, when the following sweepstakes were awarded:—

Reds: 1. Edward Hodgson's Huntsman, 19 dwts. 6 grs., a brass pan; 2. James Philipson's Top Sawyer, 18 dwts. 3 grs., a garden spade; 3. Thomas Hodgson's Roaring Lion, 18 dwts., a pruning-knife. *Yellows*: 1. Edward Hinde's Rockwood, 17 dwts. 7½ grs., a copper kettle; 2. William Hodgson's Rockwood, 16 dwts. 4½ grs., a watering-pan. *Greens*: 1. Edward Hodgson's New Angler, 14 dwts. 11 grs., a copper kettle; 2. John Swainson's Greenwood, 13 dwts. 9 grs., a pruning-knife. *Whites*: 1. Edward Hinde's Wellington's Glory, 16 dwts. 22 grs., a set of knives and forks; 2. Edward Hodgson's Lady Delamore, 15 dwts. 20 grs., a handkerchief. (*Westmoreland Advertiser*, Aug. 9.)

LANCASHIRE.

The Liverpool Floral and Horticultural Society held their first Show of Flowers, Fruits, and Vegetables, for the present year, on the 24th of April, and it was honoured by a very numerous attendance of the most wealthy and respectable families in this town and neighbourhood; a beautiful spring day shining out, in contrast with three or four of incessant rain which had preceded, having contributed greatly to enhance the ordinary attraction, and enliven the scene.

The fixtures of the machinery used in the exercises of the pupils of Mr. Hamon, whose school of gymnastics is held in the room used on this occasion, having been completely enveloped in branches of various species of evergreens, formed a beautiful rustic bower, in which benches, commodiously arranged, afforded convenient resting places for a considerable portion of the company. Two rows of tables, leading down the centre of the room, were covered, one with the numerous specimens of the various species of auriculas and polyanthus exhibited for the prizes, many of which excited the admiration of the most competent judges by their delicacy and beauty; the other with the fruits and esculents, the produce of the horticultural skill and industry of the competitors for prizes in that department, which also elicited the marked admiration of the judges and visitors.

Along the sides of the room were ranged the stands, covered with a numerous collection of the most beautiful productions of the stove and green-house, together with a very pleasing variety of heaths and herbaceous plants. The prizes having been awarded by the judges to the various claimants, and the specimens arranged in their several classes in the order of their excellence, the doors were opened to the public at two o'clock, and the succession of visitors filling the room continued, without inter-

mission, until six o'clock, the hour of closing. We remember but few occasions in this town on which we have witnessed so numerous an assemblage of the fashionables of this part of the country; and so great a proportion of beauty, as was exhibited in the female part of the company which attended on this occasion, is rarely to be met with in places of considerably greater magnitude. Both from the number and the evident satisfaction of the visitors with the beauty and variety of the objects submitted to their inspection on Thursday, we may reasonably anticipate that the future exhibitions of this Society will become favourite objects of patronage with our townspeople and neighbours; and one combining in a higher degree the several features of beauty, usefulness, and amusement, it would certainly be difficult to find. The prizes were awarded as follows:—

Auriculas. 1. Rider's Waterloo and Kenyon's Ringleader, Mr. Buckley, Chester; 2. Rawson's Badajoz and Kenyon's Ringleader, Mr. Whalley. *Green-edged:* 1. Booth's Freedom, Mr. Whalley; 2. Moor's Jubilee, Mr. Buckley; 3. Howard's Nelson, Mr. T. Harrison; 4. Rider's Waterloo, Mr. Buckley; 5. Taylor's Ploughboy, and 6. Rider's Sovereign, Mr. Whalley. *Grey-edged:* 1. Grime's Privateer, and 2. Kenyon's Ringleader, Mr. Buckley; 3. Ashworth's Rule-all, and 4. Thomson's Bang-up, Mr. Whalley; 5. Wilcock's Jenny, Mr. Gandy; 6. Thomson's Revenge, Mr. Whalley; *White-edged:* 1. Taylor's Glory, Mr. Gandy; 2. Taylor's Incomparable, Mr. Colquitt; 3. Leigh's Venus, and 4. Pot's Regulator, Mr. Bruce; 5. Kenyon's Lord Chancellor, Mr. Bruce; 6. Hughes's Pillar of Beauty, Mr. Wheeler. *Self-coloured:* 1. Redman's Metropolitan, and 2. Bury's Lord Lee, Mr. Whalley; 3. Pulford's George the Fourth, Mr. Wheeler; 4. Pulford's True Blue, and 5. Flora's Flag, Mr. Buckley; 6. Gorton's Goldfinch, Mr. Powell. *Shaded selfs:* 1. Ancient Lady, Mr. Gandy; 2. Beauty of Everton, Mr. Bruce; 3. Unknown, Mr. Powell; 4. Seedling, Mr. W. Smith. *Seedling:* 1. Mr. Pulford. *Maiden showers:* Green-edged, Mr. Wheeler; grey-edged, Mr. Smith; white-edged, Mrs. Rathbone; self-coloured, Mr. Colquitt.

Polyanthuses. 1. Pearson's Alexander, Mr. Buckley; 2. Collier's Princess Royal, Mr. Whalley; 3. Fletcher's Defiance, Mr. Buckley; 4. Taylor's Nelson, Mr. Bruce; 5. Yorkshire Regent, Mr. Buckley; 6. Stead's Telegraph, Mr. Harrison.

Plants. Stove: 1. *Cactus speciosa*, J. A. Yates, Esq.; 2. *Amaryllis Johnsonia* var., John Moss, Esq.; 3. *Gloxinia speciosa*, Mrs. Cropper; 4. *Musa coccinea*, Mrs. Dyson; 5. *Amaryllis purpurea*, Mr. Smith, Fulwood. *Green-house:* 1. *Azalea indica alba*, 2. *Corræa speciosa*, and 3. *Azalea indica purpurea*, Mrs. Davies; 4. *Epacris grandiflora*, Mrs. Thomas Earle; 5. *Primula sinensis alba*, Mrs. Whalley. *Herbaceous:* 1. *Minulus luteus* var., Mr. Davies; 2. *Primula cortusoides*, Mrs. Cropper; 3. *Saxifraga crassifolia*, Mr. Whalley.

Ericas. 1. *E. nigrita*, and 2. *E. pubescens major*, Mr. Davis; 3. *E. vestita rosea*, Mr. Dyson; 4. *E. persoluta alba*, and 5. *E. acuta*, Mr. Davies.

Basket of Flowers. 1. Mr. Whalley; 2. Mrs. Cropper.

Culinary Vegetables. Brace of Cucumbers: 1. H. Blundell, Esq.; 2. Mr. R. Roskell. *Asparagus:* 1. Mrs. Cropper; 2. Mr. Whalley. *Rhubarb:* 1. Mr. Horsfall; 2. Mr. Whalley. *French Beans:* 1. Mrs. Dyson; 2. William Earle, Esq. *New Potatoes:* 1 and 2. Mrs. Rathbone. *Sea-kale:* 1. Mr. Whalley; 2. Mrs. Rathbone. *Mushrooms:* 1. William Earle, Esq.; 2. Mrs. Rathbone. *Broccoli:* 1. Mr. Smith, Fulwood; 2. William Earle, Esq. *Cabbages:* 1 and 2. Mrs. Rathbone.

Fruit. Plate of Apples: 1. Mrs. Cropper; 2. H. Blundell, Esq. *Pears:* Mrs. Cropper. *White Grapes:* Mr. Smith, Fulwood.

Hyacinths. Red, white, blue, and yellow, Mr. Whalley.

Extra Prizes. Strawberries, Mr. R. Roskell; basket of flowers, W. Earle, Esq.; lettuces, Thomas Case, Esq.; *Thunbergia alata*, Mrs. Rath-

bone; Lee's perpetual fig, Mr. Smith, Fullwood; coffee tree, Mr. Powell; hazel nuts, Mr. Whalley.

The Summer Show of Fruits, Flowers, &c., was held by *the above Society*, on July 31. On the opening of the doors at two o'clock, the room was almost immediately filled with the concourse of spectators of each sex and every age; and one uninterrupted stream of company arriving, promenading, and retiring, continued to occupy it until six o'clock, the hour of closing. The advantages of the present arrangement, over that of former exhibitions, were apparent on first entering the room. The stands, used by the merchants on the corn-market days, for displaying their samples, served admirably for the purpose of supporting the specimens of fruits, flowers, plants, &c., sent in for show: the side rows being appropriated to the hot-house plants, &c.; and those of the centre avenue, on the right, to the fruits and esculents, and, on the left, to the prize flowers, carnations, and dahlias; and a more beautiful or pleasing display of the kind cannot well be imagined. The pines, grapes, gooseberries of various kinds, and currants, black, white, and red, were as fine as we remember to have ever seen. The cherries and other fruits were also exceedingly good in appearance, though inferior to those before mentioned. The cucumbers, celery, and cabbages were uncommonly fine. The exotics, and stove and greenhouse plants, also excited universal admiration by their number and variety, no less than by the beauty of the specimens. But by far the most interesting part of the spectacle, was the uncommonly numerous assemblage of beautiful and elegantly dressed females, whose countenances, lighted up with smiles and good humour, eloquently proclaimed the delight and satisfaction which they derived from the scene; and, arguing from what we there observed, and from the audible expressions of admiration which burst from the lips of many a delighted fair one, together with the influence of such persuaders over their friends and relatives of the other sex, we look for a considerable accession to the number of subscribers as the result of this day's display. The prizes were awarded as follows:—

Carnations. For the best pan, a silver cup, value 5*l.*, to Mr. Leighton, of Preston; for the second best, a silver cup, value 2*l.* 2*s.*, to Mr. R. F. Buckley, of Chester; for the third best, to Mr. John Appleton, of Whiston. *Scarlet Bizards*: 1. Perfection, Mr. Potter; 2. Sovereign, and 3. Bagott, Mr. Bruce; 4. Seedling, Mr. Buckley; 5. Plumer's Fox, Mr. Leighton; 6. Seedling, Mr. Large; 7. Rising Sun, and 8. Seedling, Mr. Potter. *Pink Bizards*: 1. Seedling, Mr. Wakefield; 2. Rainbow, Mr. Griffiths; 3. Alfred, and 4. Kent, Mr. Leighton; 5. Unknown, Mr. Gandy; 6. Denby, Mr. Appleton; 7. Venus, Mr. Leighton; 8. Sir William, Mr. Buckley. *Scarlet Flakes*: 1. Atlas, Mr. Leighton; 2. Comet, Mr. Large; 3. Mary, and 4. Belmont, Mr. Potter; 5. Superior, Mr. Faulkner; 6. Champion, Mr. Buckley; 7. Salamander, and 8. George the Fourth, Mr. Leighton. *Rose Flakes*: 1. Smiling Beauty, 2. Eliza, and 3. Miss Foote, Mr. Leighton; 4. Devonshire, Mr. Buckley; 5. Supreme, and 6. Vesta, Mr. Leighton; 7. Lady Hood, Mr. Griffiths; 8. Miss Hughes, Mr. Leighton. *Purple Flakes*: 1. Charlotte, Mr. Leighton; 2. Wellington, Mr. Appleton; 3. Excellent, Mr. Potter; 4. Commander, Mr. Leighton; 5. Bellerophon, Mr. Leighton; 6. Seedling, Mr. Buckley; 7. La Belle Alliance, Mr. Leighton; 8. Mary Anne, Mr. Faulkner.

Picotees. *Red*: 1. Stukely, Mr. Carter; 2. Seedling, and 3. Little John, Mr. Faulkner; 4. Seedling, Mr. Large; 5. Chilwell, and 6. Kenny's, Mr. Whalley. *Purple-feathered*: 1. Cleopatra, Mr. Potter; 2. Emma, Mr. Leighton; 3 and 4. Seedlings, Mr. Faulkner; 5. Wellington, Mr. Bruce; 6. Seedling, Mr. Pulford. *Red-striped*: 1. Seedling, and 2. Bright Star, Mr. Potter; 3. Lady Broughton, Mr. Griffiths; 4. First rate, 5. Seedling, and 6. Angler, Mr. Faulkner. *Purple-striped*: 1. Lady Bagott, and 2 and 3. Seedlings, Mr. Potter; 4, 5, and 6. Seedlings, Mr. Faulkner.

Maiden growers. Five carnations and four picotees, Mr. Wheeler.

Dahlias. *Double:* For a pan of the best six, to Mr. Cunningham; 1. *Coccinea superba*, Mr. Whalley; 2. *Fimbriata*, Mr. Skirving; 3. *Beauté Suprême*, and 4. *Sans Rival*, Messrs. Cunningham; 5. *George the Fourth*, Mr. Whalley; 6. *Sulphurea superba*, Mr. Cunningham. *Single:* 1. *Coccinea superba*, Mr. Skirving; 2. *Crimson Velvet*, Mr. Newman; 3. *Bicolor*, Mr. Powell; 4. *White*, Mr. Newman; 5. *Sulphur*, Mr. Smith; 6. *Purple*, Mr. Whalley.

Plants. *Stove:* 1. *Lagerstrœmia indica*, Mrs. Earles, Spekeland; 2. *Ixora coccinea*, Mr. Davies; 3. *Poinciana pulcherrima*, Mr. Horsfall; 4. *Gloxinia hirta*, Mr. Moss; 5. *Crinum erubescens*, Mrs. Dyson; 6. *Thunbergia alata*, Mr. Skirving; 7. *Amaryllis psittacina* var., Mr. Powell; 8. *Osbéckia stellata*, Mr. Faulkner. *Green-house:* 1. *Técoma capensis*, Mr. Skirving; 2. *Cléthra arborea*, W. Earle, Esq.; 3. *Acacia lophanthus*, Mr. Powell; 4. *Fuchsia cónica*, Mrs. Cropper; 5. *Humea elegans*, Mr. Whalley; 6. *Calceolaria rugosa*, and 7. *Fuchsia tenella*, Mrs. Cropper; 8. *Crassula coccinea*, Mr. Whalley. *Herbaceous:* 1. *Ænothëra speciosa*, Mrs. Cropper; 2. *Potentilla nepalensis*, Mr. Davies; 3. *Penstemon campanulata*, Mrs. Cropper; 4. *Lobelia senecioides*, 5. *Rudbeckia hirta*, and 6. *Liàtris spicata*, Mr. Skirving. *Orange Tree* in bearing: 1. Mr. Smith; 2. Mr. Newman. *Lemon Tree* in bearing, 1 and 2. Mrs. Cropper.

Ericas. 1. *Bòwea*, and 2. *Cùbica*, Mr. Davies; 3. *Prægnans*, Mr. Barnes; 4. *Gemmifera*, Mr. Davies; 5. *Ventricosa superba*, Mr. Whalley.

Pelargoniums. 1. *Tricolor*, Mr. Davies; 2. *Waverly*, Mrs. Cropper; 3. *Yóungii*, Mr. Skirving; 4. *Majestum*, Mr. Davies; 5. *Rubescens*, Mr. Barnes; 6. *Tricolor*, Mr. Davies.

Shrubs. *Hardy:* 1. *Eccremocarpus scabra*, and 2. *Rosa sinensis multiflora*, Mr. Skirving; 3. *Rosa Noisettiana*, Mrs. Rathbone.

Fruits. *Pines:* 1, 2, 3, and 4. Mr. Powell. *Melons:* 1. *Rock*, W. F. Porter, Esq.; 2. *Rock*, H. B. Hollinshead, Esq.; 3. *Cantaloup*, J. Moss, Esq.; 4. *Rock*, Mr. W. Barton. *Ripe Peaches:* 1, 2, and 3. Mr. Colquitt. *Ripe Nectarines:* 1, 2, and 3. Mr. Colquitt. *Ripe Apricots:* 1 and 2. H. B. Hollinshead, Esq.; 3. Mr. Smith. *Ripe Fig:* 1, 2, and 3. Mr. Powell. *Grapes.* *Black:* 1. *Hamburgh*, Mr. Smith; 2. *Lombardy*, Mr. Tayleure; 3. *Hamburgh*, Mr. Roskell. *White:* 1. *Tokay*, Mr. Colquitt; 2. *Muscat*, Mr. Tayleure; 3. *Nice*, W. Earle, Esq. *Currants:* 1. *Black*, T. C. Porter, Esq.; 2. *White*, and 3. *Red*, Mr. Smith. *Cherries:* 1. *Morello*, H. B. Hollinshead, Esq.; 2. *Morello*, Mrs. Rathbone. *Apples:* 1. *Juneating*, Mr. Tayleure; 2. *Early Anne*, Mr. Leigh; 3. *Early Margaret*, Mr. Leighton. *Pears:* 1. *Jargonelle*, Mr. Sandbach; 2. *Citron des Carmes*, Mr. Davis; 3. *Citron des Carmes*, Mr. Whalley.

Culinary Vegetables. *Celery.* *Red:* 1. *Solid*, W. Earle, Esq.; 2. *Solid*, Mr. Walker; 3. *Solid*, Mr. Smith. *Onions:* 1. Mr. Potter; 2. Mr. Cooke; 3. Mr. Ashton Yates. *Broccoli:* 1 and 2. Mrs. Rathbone.

Cut Flowers: (basket) 1. Mr. Whalley; 2. Mrs. Cropper; 3. Mrs. Rathbone. *Plants:* (basket) 1. Mr. Whalley; 2. Mr. Powell; 3. Mr. Heyworth.

Extra prizes were awarded to the following:—*Pines:* 1. Mr. J. A. Case; 2. Mr. W. R. Preston; *Guava*, Mr. Harrison; *Chou Rave*, Mr. Gueball; *Capsicum*, Mr. Smith; *Clárkia pulchélla*, Mr. Harrison; *Coreópsis tinctória*, Mr. Skirving; *Petùnia nyctaginifolia*, Mr. Whalley; *Indian Corn*, Mr. Smith; *Omnium*, Mr. Horsfall; *Hollyhocks*, Mr. Newman; *Logan Pippin Apple*, Mrs. Rathbone; *White Cabbage*, Mrs. Rathbone. *Lettuce:* 1 and 2. Miss Colquitt. *Gooseberries.* *Red:* 1. Mr. Skirving; 2. Mr. Logan; 3 and 4. Mr. Skirving. *Yellow:* 1. Mr. T. Harrison; 2. Mr. Smith; 3 and 4. Mr. Skirving. *Green:* 1. Mr. T. Harrison; 2. Mr. Whalley; 3. Mr. Harrison; 4. Mr. Skirving. *White:* 1, 2, 3, and 4. Mr. Skirving. *Brace of Cucumbers*, Mr. Powell; *Cabbages*, Mr. Grace. (*The Albion*, April 29.; *Liverpool Chron.*, Aug. 2.)

The Preston Flower Show, June 25., was attended by a full assemblage of respectable families, both from the town and neighbourhood. The display of flowers was as attractive as any of its predecessors; but however gratifying this department of the exhibition might have been to the connoisseur, that which was set apart for fruit and vegetable productions seemed to draw most attention from the general visitor. Indeed, we never beheld a finer set out than on the present occasion. We believe there is no description of rare production, the season considered, which was not to be seen on the tables, in the highest perfection; and if it would not be considered invidious to particularise, we might say the dish of May Duke cherries from Shawe Hall gardens was generally allowed to rank amongst the finest of the fine. The band of the militia contributed to keep up the spirit of the meeting with usual effect, and the whole seemed to pass off to the satisfaction of every one. The prizes were awarded as follows: —

Pinks. Purple-laced: 1. Suwarrow, 2. Lustre, and 3. Rosamond, W. Leighton, Esq.; 4. Unknown, Mr. Yates, Eccleston; 5. Ardwick Beauty, Miss Dalton, Thurnham; 6. Cato, W. Leighton, Esq. *Red-laced:* 1. George the Fourth, and 2. Humphrey Clinker, W. Leighton, Esq.; 3. Cato, Miss Dalton; 4. Rosaire, Mr. Taylor; 5. Sir Isaac Newton, and 6. Princess Charlotte, W. Leighton, Esq. *Black and White:* 1. Seedling, W. Leighton, Esq.; 2. Eclipse, Dr. Robinson; 3. Queen of June, Miss Dalton; 4. Rose Blanche, and 5. Baguett, W. Leighton, Esq.; 6. Mare Bruen, Miss Dalton.

Ranunculuses. Dark and Dark Purple: 1. Thesis, Mr. Holland; 2. Rubra, W. Leighton, Esq.; 3. Buonaparte, Miss Dalton. *Striped:* 1. Junius, and 2. Venus, W. Leighton, Esq.; 3. Unknown, Mr. Holland; 4. Unknown, W. Leighton, Esq. *Mottled:* 1. Apollo, and 2. Unknown, W. Leighton, Esq.; 3. Unknown, Mr. Holland. *Selfs:* 1. Unknown, W. Leighton, Esq.; 2 and 3. Unknown, and 4. Golden Turban, Mr. Holland.

Roses: For the best Moss Rose, to Mrs. Farington, Shawe Hall; for the best Double Rose (Montpelier), to C. Walmesley, Esq., Westwood House; for the best Double White (Provins), and for the best Single (Yellow), to Mrs. Farington.

Plants. Green-house: 1. *Cactus speciosissima*, C. Walmesley, Esq.; 2. *Fuchsia gracilis*, Mrs. Cross, Red Scar; 3. *Polýgala cordifolia*, and 4. *Burchellia capensis*, Miss Dalton; 5. *Geranium Windsor Oak*, J. Swainson, Esq.; 6. *Spectabile maculatum*, and 7. *Coronation*, Miss Rawstorne. *Hardy:* 1. *Campanula chrysoides*, and *Ophrys apifera*, Dr. Robinson; 3. *Iris ochroleuca*, Mr. Taylor; 4. *Linaria alpina*, Dr. Robinson. For the best bouquet of flowers, to Mr. Taylor; for the second best, to Dr. Robinson.

Fruit. For the best-flavoured grapes (White Frontignac), and the heaviest (Black Hamburgh), to Mrs. Cross. For the best melon (Green Flesh), to Miss Dalton; for the second best (Netted Cantaloup), to Mrs. Clayton. For the best plate of strawberries (Keen's Seedling), to C. Walmesley, Esq.; for the second best (Black Pine), to C. Swainson, Esq.; for the third best, (Wilmot's Superb), to Dr. Robinson. For the best cherries (May Dukes), to Mrs. Farington.

Vegetables. For the best cauliflower, to Mrs. Cross. For the best lettuce, and for Early Mazagan Beans, to Mrs. Farington.

Extra. For nectarines (Red Roman), and for peaches (French Mignonne), to Mrs. Cross. For roses and anemones, to C. Walmesley, Esq.

The Subscription Sweepstakes for the best plate of strawberries, was won by Dr. Robinson. (*Preston Pilot*, June 28.)

The Bolton Floral and Horticultural Society held their fourth Meeting for the season on August the 6th. It was a prize meeting for the exhibition of Carnations, Stove, Green-house, and Herbaceous Plants. The best pan of fine carnations, and one picotee, were won by Joseph Clegg; the best carnation (Foxhunter), Roger Holland, Esq.; scarlet bizards, Thomas Booth; pink bizards, James Faulkner; scarlet flakes, William Leighton, Esq., of

Preston; pink flakes, Richard Greenhalgh; purple flakes, Colonel Lee; purple picotees (striped), the best Lovely Anne, James Rushton; purple picotees (feathered), the best Cleopatra, Thomas Booth; red picotees (striped), the best Will Stukely, John Hardman. The stove and greenhouse plants were truly magnificent; of the former, the best *Cymbidium ensifolium* was won by Joseph Ridgway, Esq.; *Cassia bicapsularis*, by W. Hulton, Esq., of Hulton Park; *Melastoma corymbosa*, by R. Holland, Esq. The latter gentleman also produced the best *Vinca alba*. Amongst the greenhouse plants, William Hulton, Esq., produced the best *Cléthra arborea*, *Fuchsia gracilis*, and *Crassula coccinea*. The best *Nerium odorum*, John Livesey, Esq. — *Ericas*, the best *Longifolia*, James Faulkner. — *Geraniums*: the best *Majestum* and *Davyanum*, William Hulton, Esq.; *Victory*, Roger Holland, Esq.; and *Macranthon*, John Bradshaw. — *Herbaceous plants*: the best *Yucca filamentosa*, James Faulkner; *Campánula pyramidalis*, Miss Morris; *Lilium tigrinum*, E. Ashworth, Esq.; and *Oenothera fruticosa*, Roger Holland, Esq. — *Hardy plants*: the best *Erica multiflora*, E. Ashworth, Esq.; and *Snowberry*, R. Holland, Esq. *Dahlia* (double), best pan of six, James Faulkner. *Dahlia* (single), best pan of six, R. Holland, Esq. — Best pine, Joseph Ridgway, Esq. Best bunch of grapes, E. Ashworth, Esq.; heaviest bunch of grapes, Joseph Ridgway, Esq. Best melon, W. Leighton, Esq., of Preston. Plate of six nectarines, William Hulton, Esq. Plate of Peaches, Joseph Ridgway, Esq. Gooseberries, the heaviest (Red Lion), weight, 20 dwts. 11 grs., John Bradshaw; white (Eagle), 18 dwts. 2 grs., Matthew Gaskell; green (Greenwood), 14 dwts. 19 grs., John Bradshaw; yellow (Gunner), 16 dwts. 18 grs., John Bradshaw. The best plate of 12 red gooseberries (Lancashire Lad), John Bradshaw; best plate of 12 white (Eagle), John Bradshaw; best plate of 12 green (Greenwood), John Bradshaw; and best plate of 12 yellow (Husbandman), John Bradshaw; smallest gooseberries (Whitesmith), John Greenhalgh. Best plate of white currants, Richard Ainsworth, Esq., who also won the best plate of red currants; best plate of black currants, John Pilkington, Esq.; white and red raspberries, by the same gentleman. Best plate of 12 apples (Early Margaret), W. Leighton, Esq., of Preston. Best plate of 12 pears (Green Chisell), by the same gentleman. Best plate of onions, James Scowcroft. Best plate of celery, Charles Cragie. — *Extra prizes*: the best brace of cucumbers (one 20 in. in length, and proportionably thick), Wm. Hulton Esq.; Kentish cherries, E. Ashworth, Esq.; *Arum purpureum*, R. Holland, Esq.; *Lobelia senecioides*, by the same gentleman; *Lagerströmia indica*, William Hulton, Esq.; *Oleander*, William Crompton, Esq.; artichokes, Mr. Thomas Rushton, jun.; and vegetable marrow, R. Holland, Esq. This Meeting was by far more numerously and more respectably attended than any that has taken place this season. The room was literally crowded with ladies; and persons of the highest respectability, for several miles round, were present. (*Manchester Courier*, August 9.)

Lancaster Floral and Horticultural Society. — Our indefatigable fellow-labourer, Mr. Saul, has sent us an account of the payments and receipts of this Society, for the years 1827 and 1828, from which it appears that the brilliant exhibitions they display, and the numerous prizes they award, are all effected by little more than the very moderate sum of 40*l.* a year. The produce of 136 subscribers is 34*l.*; and, of the remaining sum, 2*l.* 10*s.* 6*d.* is collected at the door, and the rest presented by spirited individuals. We should imagine there are few examples of so well-managed and so useful a Society.

SHROPSHIRE.

Oswestry Gooseberry Show, August 1. 1828. — *Maiden Growers*: Mr. James Beckett's Roaring Lion, 17 dwts. 8 grs. *Maiden Growers of 1827*: Mr. Edward Lowe's Roaring Lion, 15 dwts. 16 grs. *Steward's Prizes*: 1.

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Mr. Morgan's (green) Lord Crewe, 23 dwts.; 2. Mr. Jackson's (red) Huntsman, 22 dwts. 10½ grs.; 3. Mr. Pugh's (yellow) Gunner, 20 dwts. 20 grs.; 4. Mr. Morgan's (white) Wellington's Glory, 19 dwts. 15½ grs. *Red*: 1. Mr. Jackson's Huntsman, 21 dwts. ½ gr.; 2. Mr. Pugh's Roaring Lion, 20 dwts. 20½ grs.; 3. Mr. Morgan's Lancashire Lad, 20 dwts. 11 grs., 4. Top Sawyer, 18 dwts. 15 grs., 5. Sir John, 18 dwts. 10 grs., 6. Prince Regent, 18 dwts. ½ gr. *Yellow*: 1. Mr. Morgan's Sovereign, 18 dwts. 19 grs., 2. Globe, 18 dwts. 7 grs., 3. Bunker's Hill, 17 dwts. 19 grs.; 4. Mr. Davies's Trafalgar, 16 dwts. 21 grs., 5. Rockwood, 16 dwts. 13½ grs.; 6. Mr. Morgan's Regulator, 15 dwts. 6½ grs. *Green*: 1. Mr. Morgan's Lord Crewe, 19 dwts. 10 grs., 2. Elijah, 17 dwts. 6½ grs.; 3. Mr. Jackson's Wistaston Hero, 17 dwts. 2 grs.; 4. Mr. Morgan's Greenwood, 16 dwts. 23 grs., 5. Oswestry Hero (seedling), 16 dwts. 2 grs., 6. Lively Green, 15 dwts. 22½ grs. *White*: 1. Mr. Pugh's Competitor (seedling), 19 dwts. 1 gr.; 2. Mr. Morgan's Wellington's Glory, 18 dwts. 18 gr.; 3. Mr. Jackson's Cheshire Lass, 16 dwts. 7½ grs.; 4. Mr. Morgan's Bonny Lass, 16 dwts. 1½ grs.; 5. Mr. Davies's Queen Caroline, 15 dwts. 9 grs.; 6. Mr. Morgan's Seedling, 15 dwts. 4½ grs.

The *Show* for 1829 will be held at the usual place; making up day, second Monday in June; day of weighing, the last Friday in July. There will be a silver cup for the first prize, raised by subscription; free to all Shropshire till the making up.—*John Owens, Secretary. Oswestry, Aug. 18. 1828.*

HEREFORDSHIRE.

The *Herefordshire Horticultural Society* held their thirteenth Exhibition on July 25th. Owing to the unpropitious state of the weather on that day, the visitors were not so numerous as on former occasions, but still there was a very fashionable and highly respectable attendance. The excessive rains which fell at intervals for many days previous, interspersed with gleams of heat, and which rendered necessary the almost constant attention of the florist in sheltering, shading, forwarding, or retarding, as circumstances required (indeed none but florists know a florist's cares), it was expected would have affected the exhibition of flowers; but, notwithstanding those discouraging circumstances, the show was excellent. There were exhibited two melons of a new variety, called the Sweet Melon of Ispahan, and also specimens of new American grapes, with the bunches remarkably large; three umbels of *Hydrangea hortensis* blossoms, blue and pink, each measuring near 30 in. in circumference; likewise many beautiful seedling dahlias, carnations, and picotees. The gooseberries were never finer, amongst which shone conspicuously the Old Crown Bob and the Roaring Lion which has lately made so much noise amongst the admirers of this useful fruit. The institution has now had a fair trial of nearly three years, and we doubt not it will "go on and prosper." The prizes were awarded as follows:—

Carnations. Scarlet Bizards: 1. Pearson's Lord Bagot, Sir J. G. Cotterell; 2. Smalley's Fox-hunter, and 3. Jue's Prince Leopold, Mr. Godsall. *Crimson Bizards*: 1. Wild's Standard of Perfection, Mr. Godsall; 2. Barr's Waterloo, Mr. Hilton; 3. Wild's Standard of Perfection, Mrs. W. Pateshall. *Scarlet Flakes*: 1. Mack's Volunteer, Mr. Godsall; 2. Pearson's Madame Mara, Mrs. W. Pateshall; 3. Lacey's Queen, Sir J. G. Cotterell. *Purple Flakes*: 1. Spurf's Amimei, Mr. Godsall; 2. Mr. Hilton; 3. Wright's Duchess of Manchester, Mr. Godsall. *Rose Flakes*: 1. Unknown, Mr. Hilton; 2. Pink Flake, Mr. Godsall; 3. Hilton's Burdett, Mr. Hilton.

Balsams. 1. Mr. Nott; 2. C. G. Cooke, Esq.

Cockscombs. 1. Sir J. G. Cotterell.

Plants Stove: 1. *Vinca rubra*, Sir J. G. Cotterell. *Green-house*: 1. *Fuchsia gracilis*, Mr. Godsall; 2. *Nerium alba plena*, J. Cotterell, Esq.;

9. *Crassula coccinea*, Mrs. Morris. *Hardy*: 1. *Hydrangea hortensis*, Archdeacon Prosser; 2. *Tigridia pavonia*, Mrs. Hugh Morgan.

Picotees. *Purple*: 1. Lee's Cleopatra, Mrs. W. Pateshall; 2. Walker's Ruby, and 3. Mr. Hilton. *Red*: 1, 2, and 3. Seedlings, Mr. Godsall.

Dahlias. *Light double*: 1. Quilled Lilac, R. J. Powell, Esq.; 2. Double blush, Sir J. G. Cotterell; 3. Double buff, Mr. Cranston. *Dark double*: 1. Seedling, Mr. Cranston; 2. *Coccinea superba*, Mrs. W. Pateshall; 3. *Beauté suprême*, R. J. Powell, Esq.

Grapes. 1. New American, Sir J. G. Cotterell; 2. Black Hamburgh, C. G. Cooke, Esq.

Melons. 1. Netted Cantaloup, Sir J. G. Cotterell; 2. Sweet Melon of Ispahan, R. J. Powell, Esq.

Gooseberries. *Red*: 1. Crown Bob, 2. Roaring Lion, and 3. Huntsman, Mr. Spencer. *Green*: 1. Toper, Mr. Spencer; 2. Weyman's Green Ocean, Mr. Godsall; 3. Green Ocean, Mr. Spencer. *Yellow*: 1. Ville de Paris, Mr. Cranston; 2. Royal Sovereign, Mr. Godsall; 3. Invincible, Mr. Cranston.

Currants. *Red*: 1. R. J. Powell, Esq. *White*: 1. Mrs. Hugh Morgan.

Turnips. 1. R. J. Powell, Esq. (*Hereford Jour.*, July 30.)

The *Ross Horticultural Society* held their nineteenth Exhibition on the 23d of July, and it was visited by all the distinguished families of that delightful neighbourhood. We never remember the display of miscellaneous plants on the grand stand more interesting, the various specimens being in fine bloom and foliage. The carnations were abundant, and in good colour, but we thought the specimens small. The show of picotees was of the first character; those exhibited by Mr. Edwards were particularly fine, as also were the cockscombs exhibited by Mr. Reynolds. The balsams were abundant and large, but the blooms were not well broken in colour. The supply of double dahlias was somewhat scant, occasioned, we suppose, by the late weather, as we know that the Ross florists abound in the several varieties of that most beautiful flower. The fruit tables were profusely covered with fine specimens, and we have great pleasure in remarking the close attention which is paid to this department by the members of the Society. The number of specimens ticketed and entered in the Society's books amounted to 739, and the evening's sale of fruits not removed by the exhibitors produced 2*l.* 15*s.* 8*d.* The prizes were awarded as follows:—

Carnations *Scarlet Bizarres*: 1. Prince William, Mr. Reynolds; 2. Yeomanson's Triumphant, Col. Money; 3. Notcutt's Lord St. Vincent, Rev. R. K. Holder; 4. Seedling, Mrs. Westfaling; 5. Davy's Sovereign, Rev. R. K. Holder. *Crimson Bizarres*: 1. Dawson's Duchess of Devon, Col. Money; 2. Liford's Regent, Mr. Reynolds; 3. Mason's Prince of Saxe Coburg, Col. Money; 4. Seedling, Rev. T. Underwood, jun.; 5. Cartwright's Rainbow, C. Biss, Esq. *Scarlet Flakes*: 1. Pardoe's Ace of Trumps, and 2. Barr's Waterloo, Col. Money; 3. Mason's Lady Hamilton, Mr. Reynolds; 4. Madame Mara, and 5. Hopkins' Scarlet Flake, H. Rosser, Esq. *Purple Flakes*: 1. Butt's Lord Rodney, J. Cooke, Esq.; 2. Duchess of Manchester, Mr. Reynolds; 3. Hume's Miss Parcast, Col. Money; 4. Brookes's Bristolian, and 5. Ives's Purple Flake, Mr. Reynolds. *Rose Flakes*: 1. Barr's Rose Flake, and 2. Webb's Lady Ducie, Col. Money; 3. Seedling, Mrs. Westfaling; 4. Brown's Eliza, Col. Money; 5. Seedling, Mrs. Westfaling.

Picotees. *Purple*: 1. Salamander, 2. Martin's Linnæus, 3. Marchioness of Bath, 4. Lee's Cleopatra, and 5. Lady Sandwich, Mr. T. Edwards. *Red*: 1. Will Stukeley, and 2. Lord Effingham, Mr. T. Edwards; 3. Mason's Favourite, Col. Money; 4. Seedling, Mrs. Westfaling; 5. Browne's Favourite, Mr. T. Edwards.

Dahlias. *Dark double*: 1. *Coccinea superba*, Mr. Hooper; 2. *Superbissima*, J. Cooke, Esq.; 3. Young's Triumphant, H. Rosser, Esq.; 4. George the Fourth, Mrs. C. Cocks; 5. *Beauté Suprême*, Mr. Hooper. *Light double*: 1. Sulphuret, and 2. *Camelliaflora*, Mrs. C. Cocks; 3. Princess Victoria,

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Mr. Hooper; 4. Lilac grandiflora, Col. Money; 5. Quilled Lilac, J. Cooke, Esq.

Balsams. 1. Scarlet Flake, J. Cooke, Esq.; 2. Purple Bizard, Mrs. Westfaling; 3. Purple Flake, Mr. Reynolds; 4. Flesh, and 5. White, J. Cooke, Esq.

Cockscombs. 1. Yellow, 2. Crimson, 3. Yellow, and 4 and 5. Crimson, Mr. Reynolds.

Plants. Stove or Green-house: 1. *Erica ampullacea*, J. Cooke, Esq.; 2. *Ornithogalum erectum*, Mrs. Westfaling; 3. *Erica ventricosa*, J. Cooke, Esq.; 4. *Calceolaria integrifolia*, and 5. *Fuchsia gracilis*, Mr. Reynolds.

Hardy: 1. *Asclepias syriacus*, Mr. Reynolds; 2. *Liàtris spicata*, Messrs. Breese and Reynolds; 3. *Hydrangea*, Mr. Reynolds; 4. *Coreópsis grandiflora*, Mrs. C. Cocks; 5. *Agrostemma coronaria flore pleno*, Mr. Reynolds.

Gooseberries. Red: 1. Crown Bob, and 2. Huntsman, T. Spencer, Esq.; 3. Warrington Red, Mrs. Westfaling; 4. British Crown, Col. Money; 5. Rum Bullium, Mrs. Westfaling. *Green:* 1. Ocean Green, T. Spencer, Esq.; 2. Ashley's Green Chisel, Mr. Reynolds; 3. Smiling Beauty, 4. Queen Anne, and 5. Chissell's Green, T. Spencer, Esq. *Yellow:* 1. Queen's Yellow, and 2 Viper, T. Spencer, Esq.; 3. Old Red Rough, Mrs. Westfaling; 4. Scorpion, and 5. Hornet, Col. Money.

Grapes. 1. Saint Peter, J. Cooke, Esq.; 2. New Sweetwater, and 3. Old Sweetwater, Mrs. Westfaling; 4. White Muscadine, Col. Money; 5. Muscat of Alexandria, J. Cooke, Esq.

Melons. 1. Scarlet Cantaloup, Mr. Reynolds; 2. Romàna, and 3. Green Flash, Col. Money. (*Hereford Jour.*, July 30.)

GLOUCESTERSHIRE.

The Gloucester Horticultural Society held their third Show on July 25., and it was as well attended as any that has preceded it. The advanced period of the season did not prevent an ample contribution of green-house plants, and the principal stand presented a very pleasing collection of beauty and variety. The exhibition of carnations and picotees was truly superb, and afforded a rich treat to amateurs in those classes. The show of dahlias was rather circumscribed, the late prevailing wet weather having generally operated much to the prejudice of that tribe. Still, however, the *tout ensemble* was very splendid, and the gems of Flora were dispersed with no unsparing hand. Many curious specimens were to be seen, particularly some flowers of the *Stapelia* species, exhibited by Mr. Arnott, which attracted much attention. The display of fruit was comprehensive and luxuriant for this early period, presenting a rich collection of pines, melons, grapes, nectarines, apricots, plums, apples, &c., in great perfection. With such objects to please the eye, not only of the horticulturist but of the casual spectator, it is not to be wondered at that the expressions of satisfaction were strong and general. The prizes were awarded as follows:—

Carnations Scarlet Bizards: 1. Paul Pry (Seedling), Mr. Crump; 2, 3, 4, and 5. Mr. Pullen. *Crimson Bizards:* 1, 2, and 3. Mr. Crump; 4. Mr. Bubb; 5. Mr. Pullen. *Scarlet Flakes:* 1. Mr. Earl, Albion Brewery, Cheltenham; 2. Mr. Pullen; 3. Mr. Bubb; 4 and 5. Mr. Pullen. *Purple Flakes:* 1. Mr. Crump; 2. Kenney's Excellent, Mr. Pullen; 3. Mr. Earl; 4. Mr. Pullen; 5. Eliza, Mr. J. C. Wheeler. *Rose Flakes:* 1. Tower of Babel, Mr. Crump; 2, 3, and 4. Mr. Pullen; 5. Mr. Hilton.

Picotees. Purple: 1. Cleopatra, and 2, 3, and 4. Mr. Pullen; 5. Mrs. T. Rudge. *Red:* 1. Pearson's Chilwell Beauty, Mr. Pullen; 2. Mr. Bubb; 3. Mr. Pullen; 4. Mr. J. C. Wheeler; 5. Mrs. T. Rudge.

Dahlias. Dark: 1. Isabella, Mr. J. C. Wheeler; 2. George the Fourth, Mr. C. Cocks; 3. Decora, and 4. Mr. J. D. Wheeler; 5. Crocata, Mr. Hooper. *Light:* 1. Mr. Bubb; 2. Theodore, Mr. J. D. Wheeler; 3. D. Maclean, Esq.; 4. Clifton Yellow, Mr. J. C. Wheeler; 5. Mr. C. Cocks.

Balsams. 1. Mr. Reynolds; 2. Mr. J. C. Wheeler; 3. Mr. Reynolds; 4 and 5. Mr. J. C. Wheeler.

Cockscombs. All five prizes were awarded to Mr. Reynolds.

Plants. Stove or Green-house: 1. *Hoya carnosa*, Mr. B. Bonnor; 2. *Plumbago cærulea*, Mr. J. D. Wheeler; 3. *Hibiscus rosa sinensis*, Mr. Arnott; 4. *Ruellia formosa*, Mr. Bond; 5. *Calceolaria integrifolia*, Mr. J. C. Wheeler. *Hardy:* 1. *Yucca filamentosa*, Mr. Arnott; 2. *Hydrangea*, Mr. Reynolds; 3. Tiger Lily, 4. *Coreopsis verticillata*, and 5. *Campanula pyramidalis*, Mr. J. C. Wheeler.

Gooseberries. Red: 1. Mr. Crump; 2. Mr. Bond; 3. Mr. Blackford; 4. Mrs. Tombs; 5. R. Canning, Esq. *Green:* 1. Mrs. T. Rudge; 2. Mr. Reynolds; 3. Mr. Pullen; 4. Mr. B. Bonnor; 5. Mr. Hulbert. *Yellow:* 1. Mr. Arnott; 2. Mrs. T. Rudge; 3. Mr. Crump; 4. Mr. Pullen; 5. Mr. B. Bonnor.

Grapes. 1. Mr. Arnott; 2 and 3. A. Nicholson, Esq., Charlton Kings; 4. D. Maclean, Esq.; 5. Mr. T. Ryder.

Melons. 1. Mr. Jessop, Somerset House Nursery Gardens, Cheltenham; 2. F. Neale, Esq.; 3. R. Canning, Esq.; 4. Mr. Jessop.

Extra Prizes. Pines: D. Maclean, Esq. Great merit was likewise allowed in some specimens of this fruit exhibited by Mr. Jessop.

Nectarines. Mr. T. Ryder.

Apples. Mr. B. Bonnor.

At the Wotton-Underedge Annual Society of Florists, held on July 24., the prizes were awarded as follows:—First prize of Carnations, three Seedlings, Scarlet Flake, Pink Flake, and Purple Flake, to Mr. Daniel Penly; 2. Same sorts as above, to Mr. John Derritt. First prize in Gooseberries, for 12 gooseberries, Crown Bobs, Roaring Lion, and the Huntsman, weighing 11½ oz., to Mr. John Derritt; 2. Twelve Gooseberries, of the same sorts, weighing 10½ oz., to Mr. J. H. Hunt. (*Cheltenham Chronicle*, July 31.)

WORCESTERSHIRE.

The Worcestershire Horticultural and Floral Society held a Meeting on June 19., when prizes were awarded as follows:—

Plants. Stove: 1. *Cactus speciosa*, Rev. Thomas Waters; 2. *Gloxinia speciosa*, and 3. *Hibiscus*, Mr. Beech. *Green-house:* 1. *Erica ventricosa superba*, Mr. Smith; 2. *Polýgala cordifolia*, Mr. Smith; 3. *Macranthon*, Mr. Fuller; 4. *Oleander*, Sir Anthony Lechmere, Bart.; 5. *Erica reflexa*, Mr. Smith; 6. *Bouvardia triphýlla*, Mr. Smith. *Hardy:* 1. *Dianthus superba*, Mr. Beech; 2. *Kalmia rubra*, Mr. Smith; 3. *Láthyrus grandiflorus*, Mr. Beech; 4. *Rhododéndron hirsutum*, Mr. Smith; 5. *Robinia hispida*, E. Isaac, Esq.; 6. *Iris squálens*, Mr. Beech.

Ranunculus. Dark: 1. Rosny, and 2. Queen Caroline, Mr. Smith; 3. L'Antique, Mr. Fuller; 4. Dr. Franklin's Black, Mr. Smith; 5. Condorcet, Mr. Harrison; 6. Naxara, Mr. Fuller. *Edged:* 1. Madame de Lace, and 2. Temeraire, Mr. Harrison; 3. Lady Gower, Mr. Fuller; 4. Achilles, 5. Cothurn, and 6. Unknown, Mr. Smith. *Spotted and Mottled:* 1. Unknown, Rev. Thomas Waters; 2. Feu Violent, 3. Earl of Coventry, and 4. Mélange de Beautés, Mr. Smith; 5. Zorade, and 6. Thompson's Queen, Mr. Harrison. *Striped:* 1. Mélange de Beautés, Mr. Pennethorn; 2. Temeraire, Mr. Harrison; 3. Unknown, Rev. Thomas Waters; 4. Celadon, Mr. Smith; 5. Unknown, Mr. Pennethorn; 6. Lady Berkeley, Mr. Harrison. *Selfs:* 1. Triumphant, and 2. Alphonso, Mr. Smith; 3. Model of Perfection, Mr. Harrison; 4. Countess of Wurtemberg, Mr. Smith; 5. Yupi, Mr. Harrison; 6. Orange Bower, Mr. B. Hickman.

Roses. 1. Mr. Fuller; 2. Gigantic Rose, Elias Isaac, Esq.; 3. Moss, Mr. Fuller; 4. Rose Unique, Mr. Beech.

Pinks. Laced: 1. Berkeley Hero, and 2. Beauty of Bath, John Taylor, Esq.; 3. Knight's Lady Auckland, Mr. Holmes. *Selfs:* 1. Hodges' Seed-

ling, Princess Victoria, John Taylor, Esq.; 2. Duchess of Devonshire, Mr. B. Hickman.

Fruit. *Pine-apples*: Mr. Beech. *Grapes*: Muscat of Alexandria, Mr. Beech. *Peaches*: Mr. Beech. *Cherries*: 1. Trippleton, Mr. Fuller; 2. Elton, Mr. Smith. *Strawberries*: 1. Black Taunton, Mr. Hunt; 2. Keen's Seedling, Mr. Beech; 3. Keen's Seedling, Mr. Hunt.

Vegetables. *Cauliflower*: John Taylor, Esq. *Cucumber*: Sir Anthony Lechmere, Bart. *Lettuce*: Magnum Bonum, Mr. Beech. *Triple-curved Parsley*: John Taylor, Esq. *Carrots*: Early Horn, Sir Anthony Lechmere, Bart. (*Worcester Herald*, June 28.)

A Meeting of the above Society was held on the 23d of June. Considering its very recent establishment, it was well attended; and from the present list of subscribers, bids fair to vie with any other provincial society of the kind. The specimens of tulips were particularly fine, notwithstanding the unfavourable state of the weather; there were also many beautiful specimens of stove, green-house, and hardy plants, as also fruits and vegetables. The prizes were awarded as follows:—

Plants. *Stove*: 1. Cockscomb, and 2. Balsam, John Taylor, Esq.; 3. Lantàna cròcea, Mr. Smith. *Green-house*: 1. *Erica ventricòsa*, 2. *Elichrys-um sesamòides*, and 3. *Epàcris pulchélla*, Mr. Smith. *Pelargoniums*: 1. *Daveyanum*, Mr. Fuller; 2. *Gowèrii supérbum*, Mr. Smith; 3. *Macránthon*, Sir A. Lechmere, Bart. *Hardy*: 1. *Kálmia latifòlia*, and 2. *Azàlea pòntica*, Mr. Smith; 3. Mossy Rose de Meaux, Mr. Fuller. *Herbaceous*: 1. Iris, the Rev. Thomas Waters; 2. Pansies, Mr. Holmes.

Tulips. *First Class*: 1. Duc de Savoy, Mr. Fuller; 2. Grand Magnifique, Mr. Pennethorn; 3. Sir Sidney Smith, and 4. Gold Beams, Mr. Smith; 5. Trafalgar, Mr. Fuller; 6. Ozarde Moscow, Mr. Pennethorn. *Second Class*: 1. Washington, 2. Maitre partout, and 3. Eagle Noir, Mr. Fuller; 4. Black Baguet, Mr. Pennethorn; 5. Reine de Egypt, Mr. Smith; 6. Rose Pretiòsa, Mr. Fuller. *Third Class*: 1. Neat and Clean, Mr. Fuller; 2. Aurora, Mr. Smith; 3. Rose Beau-père, Mr. Fuller; 4. Duc de Bronte, Mr. Pennethorn; 5. Countess de Honduras, and 6. Holden's Rose, Mr. Smith. *Fourth Class*: 1. Sir Joseph Banks, Mr. Smith; 2. Sir Sidney Smith, and 3. Catafalque, Mr. Pennethorn; 4. Imperial Major, Mr. Smith; 5. Bell's King, Mr. Fuller; 6. Parnassus, Mr. Smith. *Fifth Class*: 1. Holland's Defiance, Mr. Smith; 2. Baguet Regius, Mr. Fuller; 3. Bienfait, 4. Grand Vide a Percy, and 5. Laura, Mr. Smith; 6. La Cherie, Mr. Fuller. *Sixth Class*: 1. Rose Unique, Mr. Smith; 2. Triomphe Royal, Mr. Fuller; 3. Guerrier Rosa, 4. Rosa superior, and 5. Ruby Rose, Mr. Pennethorn; 6. Triomphe de Flora, Mr. Smith. *Selfs*: 1. Mine d'or, Mr. Fuller.

Vegetables and Fruits. *Peas*: Mr. Beech. *Apples*: Mr. Beech. *Broccoli*: Mr. Beech. *Cabbage*: Mr. Beech. *Lettuce*: Richard Griffiths, Esq. *Cucumbers*: Richard Griffiths, Esq. *Early Potatoes*: Richard Griffiths, Esq. *Gooseberries*: John Taylor, Esq.—E. Robinson, Hon. Sec. Corn Market, Worcester, July 3. 1828.

The third Meeting of the above Society was held on July 15. There were exhibited no less than 700 specimens of plants, and 50 of fruits and vegetables. The prizes were awarded as follows:—

Plants. *Stove*: 1. *Gloxínia supérba*, and 2. Lantàna cròcea, Mr. Smith. *Green-house*: 1. Arden's Major, and 2. Anna Boleyn, the Rev. Thomas Waters; 3. *Erica Juliàna*, Mr. Smith. *Hardy*: 1. *Passiflòra racemòsa*, Mr. Smith; 2. *Tigrídia pavònia*, the Rev. T. Waters.

Balsams. Mr. Linton.

Cockscombs. Mr. Hodges.

Dahlias. 1 and 2. Seedlings, Mr. Smith.

Carnations. *Scarlet Bizards*: 1. Davy's Sovereign, the Rev. T. Waters; 2. Seedling, John Taylor, Esq.; 3. Yeomanson's Triumphant, the Rev. T.

Housman. *Crimson Bizards* : 1. Cartwright's Rainbow, Mr. Fuller; 2. Pope's Queen, and 3. Seedling, the Rev. T. Housman. *Scarlet Flakes* : 1 and 2. Seedlings, John Taylor, Esq.; 3. Seedling, Mr. Holmes. *Pink Flakes* : 1. Seedling, John Taylor, Esq.; 2. Addenbroke's Twopenny, the Rev. T. Housman; 3. Seedling, John Taylor, Esq. *Purple Flakes* : 1. Princess Charlotte, John Taylor, Esq.; 2. Turner's Princess Charlotte, Mr. Pennethorne; 3. Mrs. Godfrey, the Rev. T. Housman.

Picotees. *Red* : 1. Unknown, the Rev. Thomas Waters; 2 and 3. Seedlings, John Taylor, Esq. *Purple* : 1. Seedling, John Taylor, Esq.; Hufton's Hector, the Rev. T. Housman; 3. Miss Emma, Mr. Holmes. *Yellow* : Maximilian, Mr. Pennethorne.

Fruits. *Pines* : R. Griffiths, Esq. *Melons* : John Taylor, Esq. *English Lemons* : Mr. Smith. *Peaches* : Mr. Beech. *Nectarines* : Mr. Beech. *Grapes* : 1. Muscadine, and 2. Hamburgh, John Taylor, Esq. *Gooseberries* : Heaviest Berry, Mr. Fuller; dish of best-flavoured Green, John Taylor, Esq.; dish of best-flavoured Red, Mr. Beech. *Apples* : the Rev. Thomas Waters.

Vegetables. *Lettuce* : Mr. Linton. *Dwarf French Beans* : John Taylor, Esq. *Artichokes* : R. Griffiths, Esq. *Peas* : Mr. Beech. *Shallots* : Mr. Hunt. *Onions* : Mr. Pennethorne. (*Worcester Herald*, July 19.)

The *Vale of Evesham Horticultural Society* held their second Anniversary at Evesham, on July the 24th, at which about 200 ft. in length, on the stands, of various flowers, besides carnations and picotees (the principal prize flowers at this meeting,) were exhibited in the bottles of the Society; and the variety and quality of the various fruits exhibited, greatly exceeded those of the former year at this time. After the various prizes had been adjudged, the chair was taken at two o'clock, and the following communications were made by Edward Rudge, Esq. the president, viz.: two papers by Mr. Thomas Fleetwood of Dunnington; the one on increasing the crop of strawberries on light sandy land, by dressing the land two inches thick with marl, after they have been manured in the usual manner; the other, on a new method of propagating pinks, by layers, without using the knife, by dividing with the hand the young branch from the old root, and applying a small quantity of soot on the wounded part, to preserve it from the wire worm. The President read a paper of his own on the history, culture, and management of the carnation and picotee, in which a curious list of such carnations was detailed as were in high estimation in England prior to the year 1629; an account of the first Florist Society of Gardeners that was formed in London before the year 1730, and the objects pursued by them for the introduction and cultivation of new trees, plants, and flowers, from abroad. The paper concluded with a description of the requisite properties of the carnation, in all its parts, to qualify that highly esteemed flower for taking prizes, and the best mode of cultivating it. The prizes were adjudged as follows:—

Carnations. *Scarlet Bizards* : 1. Unknown, John Taylor; 2. Fox-hunter, Mr. Mayfield; 3. Seedling, John Taylor, Esq. *Crimson Bizards* : 1. Rainbow, Mr. Holmes; 2. Gregory's Alfred, Rev. Mr. Grettan; 3. Chaplin's Duncan, Mr. Barnes. *Scarlet Flakes* : 1. Seedling, John Taylor, Esq.; 2. Unknown, Rev. Mr. Grettan; 3. Madam Mara, Rev. Mr. Houseman. *Purple Flakes* : 1. King's Excellent, John Taylor; 2. Princess Charlotte, Mr. Hunt; 3. Adwin's Princess, Rev. Mr. Houseman. *Rose Flakes* : 1. Royal Prince of Wales, Rev. Mr. Houseman; 2. Rivers' Incomparable, Mr. Wm. Murrell; 3. Fletcher's Duchess of Devonshire, Rev. Mr. Houseman.

Picotees. *Red* : 1. Seedling, John Taylor, Esq.; 2. Seedling, Mr. Fleetwood; 3. Seedling, John Taylor, Esq. *Purple* : 1. Cleopatra, John Taylor, Esq.; 2. Hufton's Hector, Rev. Mr. Houseman; 3. Seedling, John Taylor, Esq.

Balsams. 1. Mr. Bushell; 2 and 3. Mr. Cheek.

Plants. Stove and Green-house: 1 and 2. Mr. Smith; 3. Mr. Barnes.
Hardy Annuals: 1. Mr. Smith; 2. Mr. Cooper; 3. John Taylor, Esq.

Gooseberries. Red: 1. John Taylor, Esq. *Yellow:* 1. Rev. Mr. Houseman. *Green:* John Taylor, Esq. *White:* Rev. Mr. Houseman.

Grapes: 1. Black Hanbury, John Taylor, Esq.; 2. White Muscat, Mr. Fulton.

Prize to Mr. Fulton's Stroud Melon. Prize to Mr. Fulton's Queen Pine. Cucumber prize to Mr. Stratton. Celery prize to John Taylor, Esq. — Prizes were also awarded to Mr. Cheek, for an extra production of onions; to J. Taylor, Esq., for superior specimens of seedling carnations and picotees; and to Mr. Jessop, for a fine specimen of the new variety of sweet-scented melons. The fruits exhibited by Mr. Fulton were remarkably fine; also the Black Hanbury grapes, by John Taylor, Esq. — Nearly forty of the members partook of an excellent dinner at the Northwick Arms Inn, where the dessert, comprising most of the prize fruits, of pines, melons, grapes, and other choice fruits, besides those sent by the President, was greatly admired. (*Worcester Herald*, Aug. 9.)

The Pershore Florists' Society held a Meeting on April 24th, when prizes were awarded for the following Auriculas: —

Green-edged: 1. Bearless's Superb, and 2. Eaton's Volunteer, Mr. Holmes; 3. Lord Lascelles, Mr. Davis; 4. Jolly Tar, Mr. Welles. *Grey:* 1. Ring-leader, 2. Privateer, and 3. Ashworth's Rule-all, Mr. Holmes; 4. Thomson's Revenge, Mr. Davies. *White:* 1. Taylor's Glory, Mr. Welles; 2. Pitman's Eclipse, Mr. Holmes; 3. Empress of Russia, and 4. Highland Lass, Mr. Racster. *Selfs:* 1. Metropolitan, Mr. Mayfield; 2. Flora's Flag, Mr. Holmes; 3. Larden's Forester, Mr. Racster; 4. Ned Ludd, Mr. Hodges. *Alpines:* 1. George the Fourth, Mr. Holmes; 2. Racster's Ruby (seedling), Mr. Racster; 3. Earl King, Mr. Holmes; 4. Davies's Little Widow (seedling), Mr. Davies. *Grey-edged:* Davies's Squire Scott (seedling), Mr. Davies.

At the *Meeting of July 18.* prizes were given for the following Carnations and Gooseberries: —

Scarlet Bizaris: 1. Prince George (seedling), 2. Strensham Hero (seedling), and 3. Navarino (seedling), Mr. Hodges; 4. Mark Antony (seedling), Mr. Racster. *Crimson Bizaris:* 1. Rainbow, Mr. Holmes; 2. Alfred, Mr. W. Murrell; 3. Duke of Glo'ster (seedling), Mr. Hodges; 4. Lord Duncan, Mr. Valencourt. *Scarlet Flakes:* 1. Bright Phœbus (seedling), and 2. Madame Mara, Mr. Hodges; 3. Lord Anson, and 4. Holmes's Lady William Lennox, Mr. Holmes. *Purple Flakes:* 1. Princess Charlotte, Mr. Hodges; 2. Mary Anne (seedling), Mr. Holmes; 3. Grenadier, Mr. Valencourt; 4. Holme's No. IV. (seedling), Mr. Holmes. *Rose Flakes:* 1. Duchess of Clarence (seedling), Mr. Hodges; 2. Incomparable, Mr. D. Murrell; 3. Mutabilis (seedling), Mr. Hodges; 4. Prince of Wales, Mr. Davies. *Picotees. Red:* 1. Strensham Beauty (seedling), Mr. Hodges; 2. Litchfield Hero, Mr. D. Murrell; 3. Will Stukeley, Mr. Valencourt; 4. Robin Hood (seedling), Mr. Hodges. *Purple:* Lovely Ellen (seedling), Mr. Hodges; 2. Beauty of Northampton, Mr. Holmes; 3. Cleopatra Superba (seedling), Mr. Racster; 4. Lee's Cleopatra, Mr. Holmes. *Yellow:* 1. Holmes's Jimony (seedling), Mr. Holmes.

Gooseberries. Red: 1. Sportsman, 17 dwts. 8 grs., 2. Highwaym., 17 dwts. 4 grs., and 3. Roaring Lion, 17 dwts. Mr. Hodges. *Yellow:* 1. Cheshire Cheese, 16 dwts. 9 grs., 2. Rockwood, 16 dwts. 2 grs., and 3. Viper, 16 dwts., Mr. Hodges. *Green:* 1. Laurel, 15 dwts. 7 grs., 2. Ocean, 15 dwts. 3 grs., and 3. Greenwood, 14 dwts. 18 grs., Mr. Hodges. *White:* 1. Queen Anne, 14 dwts. 15 grs., Mr. Holmes; 2. Cheshire Lass, 14 dwts. 10 grs., and 3. Hearts of Oak, Mr. Hodges. — *F. Davies, Hon. Sec. Pershore, July 29. 1828.*

BERKSHIRE.

The Wallingford Ranunculus Show was held at the Town Hall there, on the 9th of June, at twelve o'clock. The flowers exhibited were very superior. The Mayor and other gentlemen honoured the Society with their company. Messrs. Groom of Walworth, Ronalds of Brentford, and Bidall of Finchamfield were umpires, and the prizes were awarded as follows : —

First Class. *Dark and dark purple* : 1. Naxara, Rev. Jos. Tyso ; 2. Variat, and 3. Voctonnox, Mr. Clarke ; 4. Naxara, Mr. Costar ; 5. Ajax, Mr. Woodbridge ; 6. Variat, Mr. Wells. Second Class. *Striped* : 1. Téméraire, and 2. Mélange, Rev. Jos. Tyso ; 3. Téméraire, Mr. Woodbridge ; 4. Oressus, Mr. Wells ; 5. Pier le Grand, Mr. Costar ; 6. Cour de France, Mr. Clarke. Third Class. *Crimson, Red, and Rose* : 1. Rubens, and 2. Henriette, Rev. Jos. Tyso ; 3. Heliotrope, Mr. Atkinson ; 4. Coe's Rising Sun, Mr. Clarke ; 5. Apollo, Mr. Costar ; 6. Independent, Mr. Woodbridge. Fourth Class. *Edged* : 1. Venus, and 2. Dr. Franklin, Mr. Clarke ; 3. Horatio, Rev. Jos. Tyso ; 4. Tendresse, Mr. Wells ; 5. Wertemberg, Mr. Woodbridge ; 6. Galitzin, Mr. Costar. Fifth Class. *Spotted* : 1. Agamemnon, and 2. Arbrisseau, Mr. Clarke ; 3. Princess of Wales, Mr. Atkinson ; 4. Fabius, Mr. Costar ; 5. Cremona, Mr. Woodbridge ; 6. Andrew, Rev. Jos. Tyso. Sixth Class. *Orange, Yellow, and Straw* : 1. Beroth, Rev. Jos. Tyso ; 2. Cedo Nulli, Mr. Clarke ; 3. Golconda, Mr. Atkinson ; 4. Eliza, Mr. Wells ; 5. Hannan's Sulphur, Mr. Costar ; 6. Yupi, Mr. Woodbridge. Seventh Class. *Mottled* : 1. Angouleme, Mr. Clarke ; 2. Nixon's Queen, Rev. Jos. Tyso ; 3. Thompson's Queen, Mr. Woodbridge ; 4. Curion, Mr. Costar ; 5. Cora, Mr. Wells ; 6. Vesta, Mr. Atkinson. *Dish of Nine different Flowers not shown in the above Classes* : 1. Mr. Birkett ; 2. Rev. Jos. Tyso ; 3. Mr. Clarke ; 4. Mr. Atkinson ; 5. Mr. Woodbridge ; 6. Mr. Wells ; 7. Mr. Costar. *Steward's Prize* : Mr. Birkett. — *Joseph Tyso, Secretary. Wallingford, June 24. 1828.*

NOTTINGHAMSHIRE.

At a Maiden Gooseberry Show held at Lenton on the 21st of July, the prizes were adjudged as follows : — *Stewards' Prizes* : T. Chawner's (red) Lion, 16 dwts. 6 grs. ; J. Wallis's (green) Ocean, 11 dwts. 5 grs. ; J. Twigg's (yellow) Royal Gunner, 14 dwts. 3 grs. ; B. Shepperd's (white) Eagle, 12 dwts. 22 grs. ; *Reds* : 1. Wallis's Huntsman, 15 dwts. 21 grs. ; 2. Broomhead's Crown Bob, 14 dwts. 18 grs. ; 3. Brown's Lancashire Lad, 13 dwts. 1 gr. *Greens* : 1. Chawner's Laurel, 11 dwts. 4 grs. ; 2. Evans's Greenwood, 9 dwts. 21 grs. ; 3. Twigg's Jolly Angler, 10 dwts. *Yellows* : 1. Ward's Viper, 13 dwts. 8 grs. ; 2. Windle's Queen, 11 dwts. ; 3. Selby's Weedham, 8 dwts. 20 grs. *Whites* : 1. Croft's Whitesmith, 11 dwts. 19 grs. ; 2. Ward's Lion, 11 dwts. 14 grs. ; 3. Brown's Thrasher, 10 dwts. 2 grs.

At a Gooseberry Show held at Southwell on the 22d of July, the heaviest of all colours, Mr. Stapleton's Lion, weighed 20 dwts. 13 grs. *Reds* : 1. Swift's Lion, 20 dwts. 10 grs. ; 2. J. Sandaver's Huntsman, 19 dwts. 9 grs. ; 3. Gamble's Sir John, 18 dwts. 8 grs. ; 4. Adlington's Top Sawyer, 17 dwts. 11 grs. ; 5. Leeson's Bob, 16 dwts. 3 grs. ; 6. Butler's Jubilee, 16 dwts. *Yellows* : 1. Fletcher's Nelson's Waves, 18 dwts. 13 grs. ; 2. J. Sandaver's Gunner, 16 dwts. 22 grs. ; 3. Adlington's Rockwood, 16 dwts. ; 4. Stapleton's Golden Fleece, 14 dwts. 6 grs. ; 5. Fletcher's Sovereign, 14 dwts. 2 grs. ; 6. Gamble's Scorpion, 14 dwts. 1 gr. *Greens* : 1. Leeson's Angler, 16 dwts. 3 grs. ; 2. S. Sandaver's Troubler, 15 dwts. 5 grs. ; 3. Fletcher's Greenw., 14 dwts. 18 grs. ; 4. Shumach's Ocean, 13 dwts. 16 grs. ; 5. Glazebrook's Southwell Hero, 13 dwts. 11 grs. ; 6. Swift's Wistaston Hero, 13 dwts. 10 grs. *Whites* : 1. Shumach's Wellington's Glory, 18 dwts. 15 grs. ; 2. Leeson's Queen Anne, 18 dwts. 1 gr. ; 3. Shumach's Thrasher, 16 dwts. 13 grs. ; 4. Glazebrooke's Bonny Lass, 15 dwts. 5 grs. ; 5. Knolls's

Smiling Beauty, 13 dwts. 8 grs.; 6. Knolls's Whitesmith, 13 dwts. 5 grs. *Seedlings*: 1. Mr. Glazebrook, 14 dwts. 2 grs.; 2. Mr. Knolls, 13 dwts. 10 grs. *Dishes*: 1. Mr. Stapleton, 18 berries; 2. Mr. Swift, 18 berries; 3. Mr. Leeson, 18 berries; 4. Mr. Shumach, 18 berries. (*Nottingham Review*, July 26.)

SUFFOLK.

The Ipswich Horticultural Society held their second Meeting for the year on the 28th of July, which, if we may judge from the splendid exhibition of fruits, &c., proves that the Society has already been productive of some good; and induces us to believe, that, ultimately, much improvement will result from it. To pay a just tribute to each individual production would exceed our limits, but there were some, which, to pass them over without notice, would be doing them injustice: the pines, for instance, exhibited by Mr. Basting, gardener to A. H. Steward, Esq., were magnificent, and a general feeling of regret prevailed, that no prize could be given to this fruit, in consequence of its not being allowed to be tasted. The melons were excellent; one, in particular (called the New Scarlet Flesh), sent by Mr. Cole, gardener to R. Wilson, Esq., was most delicious: the gooseberries and currants, produced by Mr. Woollard, excelled all we had previously witnessed; one berry, the largest ever shown in this county, weighing the surprising weight of 27 dwts., and the currants were equally fine of their kind, 18 bunches weighing a pound. The judges appointed were the Rev. S. Johnson, Mr. Patterson, and Mr. Bird, assisted by Mr. J. Ablitt and Mr. Seagrief as weighers of the fruit. The prizes were awarded as follows: — *Melons*: New Scarlet Flesh, to Mr. Cole, gardener to R. Wilson, Esq. *Grapes*: Frankendale, Mr. Basting, gardener to A. H. Steward, Esq. *Apri-cots*: Moor Park, Mr. J. Smith, gardener to D. Alexander, Esq. *Plums*: Black Morocco, Mr. Milborn, Ipswich. *Cherries*: 1. Morello, Mr. Wm. Fitch, Ipswich; 2. Bigarreau, Mr. Milborn. *Table Apples*: Juneating, Mr. Barney. *Kitchen Apples*: Hawthorndean, Mr. J. Smith. *Gooseberries. Red*: 1. Roaring Lion, Mr. Woollard, 27 dwts.; 2. Roaring Lion, Mr. Hunt, Whitton, 24 dwts. 3 grs.; *Yellow*: 1. Gunner, Mr. Woollard, 19 dwts. 6 grs.; 2. Rockwood, Mr. Brett, Stowmarket, 16 dwts. 4 grs. *Green*: 1. Troubler. Mr. Woollard, 17 dwts. 1 gr.; 2. Lady Delamare, Mr. Crabb, Stowmarket, 16 dwts. 2 grs. *White*: 1. Wellington's Glory, Mr. Woollard, 17 dwts. 5 grs.; 2. Eagle, Mr. Smith, Whitton, 16 dwts. *Seedling Gooseberry*: Mr. Barney, 12 dwts. For the best plate of gooseberries for flavour (Cham-paigne), Mr. Lovely, Whitton. *Currants*: 1. White Dutch, Mr. Wool-lard, 18 bunches to the pound; 2. Red, Mr. Woollard, 31 to the pound. *Raspberries*: Red Antwerp, Mr. Milborn. *Cucumbers*: Gourds No. 3., Mr. Woollard. *Lettuces*: 1. Cape, Mr. Sally, gardener to H. N. Jarrett, Esq.; 2. Coss, Mr. J. Smith. *Broccoli*: Cape, Mr. Milborn. *Celery*: Cape, Mr. Milborn. *Carrots*: Cape, Mr. Milborn. For the best bouquet, consisting of the choicest border flowers, to Mr. Jeffries, nursery-man, Ipswich.

Upwards of thirty members dined together; and, in the absence of the worthy president, W. Rodwell, Esq., the chair was ably filled by Mr. Vaux. Two papers were read to the Society, the one from Mr. Basting, on an original plan of growing pines and melons in the same pit; the other from Mr. Vaux, on a cheap and efficacious method of destroying the Aphis or green fly upon wall trees. We hail the production of these papers with much pleasure, in the hope that they will stimulate other members to communicate to the Society any novelty or useful information they may happen to be in possession of, as it is by these means new and improved methods of raising, cultivating, propagating, &c., will be elicited, mutual instruction given and received, and one of the most delightful sciences promoted — that of horticulture; for gardening, which has been extolled, and its praise set forth, by some of the best of men and most respectable

writers, is, as the great Lord Bacon observes of it, "one of the purest of human pleasures." We indeed rejoice to find this Society so appreciated and encouraged as it now is, for we are informed that ten new members, who were proposed at the former meeting, were elected on Monday; twenty-six were nominated as candidates for admission, who were principally from among the gentry and clergy of the county. The practical gardener, who is also admitted, must find it his interest to join a society like this, where his exertions are rewarded, and his merit is made known; for we may say, in the lines of Cowper: —

"What we admire, we praise; and when we praise,
Advance it into notice, that, its worth
Acknowledged, others may admire it too."

(*Ipswich Journal*, August 2.)

ART. VI. *Provincial Gardens.*

BAGSHOT Park; H. R. H. the Duke of Gloucester. (May 13.)—The situation of this residence is flat, the soil poor, and there is little or no distant prospect. Fortunately the ground is dry, a circumstance favourable to making walks; and there is a considerable breadth of wood, partly natural, as a scene for conducting the walks from one glade to another, and these glades are ornamented and planted with rare and showy shrubs and flowers. The merit of the place consists entirely in these ornamented and enriched glades and walks. The house is a plain old building, of no interest in an architectural point of view, and only noticeable on account of some magnolias, passion-flowers, myrtles, pomegranates, and climbing, many-flowered, ever-flowering, and Greville roses, which are trained against it. Looking from the entrance front to the right, a very fine old oak meets the eye; to the left, some fine specimens of Cornish elm, with very straight trunks and few branches, the tallest 80 ft. high, and one of the largest silver firs in England, 110 ft. high. The Cornish elm is readily known at this season, by being the latest of coming in leaf.

The flower-garden of Her Royal Highness the Duchess of Gloucester, which Mr. Toward has measured and mapped purposely for this notice (*fig. 116.*), is entered through a very well designed and admirably executed close rustic gate (*a*) and arbour trellis walk (*b*). Passing under some immense beech trees, the first striking feature is the rosary (*c*), which consists of a very complete collection of dwarf plants, in digged groups or masses, on a surface of turf, surrounded by a shrubbery of evergreens. The plants are exceedingly well managed, and flower, as we have been informed by several persons, with greater vigour than roses do almost any where. The cause of this is, their being planted in a loamy rich soil, the plants not too much crowded, cut down at every winter's pruning to within a few inches of the soil, and taken up and renewed every six or seven years. When the flowering season is over, the stools, as they may be called, throw up the most vigorous shoots, which, with the exception of one here and there, which overtops the rest, and injures the tufted outline of the masses, are allowed to perfect their leaves, and ripen their wood. This, as Mr. Toward observed, must greatly strengthen the roots, and is, no doubt, the principal reason why they grow so vigorously the following year, as in a great measure to defy the attacks of the aphides.

The next leading feature in this garden is an extensive compartment (*d*) laid out in masses of showy herbaceous plants, edged with box, and separated

by gravel walks. There is an arboretum (*e*), consisting of trees and shrubs of the rarer sorts, scattered singly over a lawn somewhat varied in surface, and intersected by a gravel walk; also an American garden on turf (*f*), like the rosary, in very great vigour and beauty. Some of the groups are devoted to all the species that can be got of one genus, and others to all the varieties that can be got of one species. The collections of rhododendrons, azaleas, andromedas, vacciniums, hardy ericas, and magnolias are very complete; rhododendrons and azaleas, indeed, abound in various parts of the garden, and, as they become too thick, are thinned out and distributed in the woods, as substitutes for the laurels and other under-wood now there. The surface soil of these woods being a soft, black, peat-like material, the rhododendrons have already sown themselves, and in a few years they will cover acres, as they already do at Caen Wood and Fonthill. It seems to be a part of the plan of management at Bagshot, to distribute exotic trees over the margins of the native woods, and so, gradually, to give them a highly enriched and botanical character.

REFERENCES.

a, Entrance from the mansion.

b, Arbour trellis-work, in the rustic manner.

c, Rosary; beds on turf.

d, Herbaceous garden; the beds on gravel, with box edgings.

e, Arboretum.

f, The American ground; the beds on turf.

g, Exotic flower-garden; geraniums, fuchsias, salvias, &c., in beds and in baskets of wirework, on turf.

h, Covered seats, in the rustic style.

i, Dutch garden. (For its details see fig. 117.)

m, Area, for setting out the green-house plants.

n, Avenue leading to the grand conservatory.

o, Flower-garden.

p, Forcing and propagating house.

q, Potting shed.

r, Frames and pits for forcing and propagating.

s, Working shed, and stores of garden materials.

t, Grove, containing some fine specimens of very large forest trees.

u, Beds for masses of flowers of various sorts, one sort only in a mass.

v, Masses of dahlias.

w, Rustic vases for flowers, in the Dropmore manner.

x, Walks among steep banks of rockwork, and large masses of rock.

y, Bridge in the rustic manner, to carry one walk over another.

z, Green-house, with horizontal trellis, covered with rare creepers on the outside of the front.

q, Forest trees and evergreens.

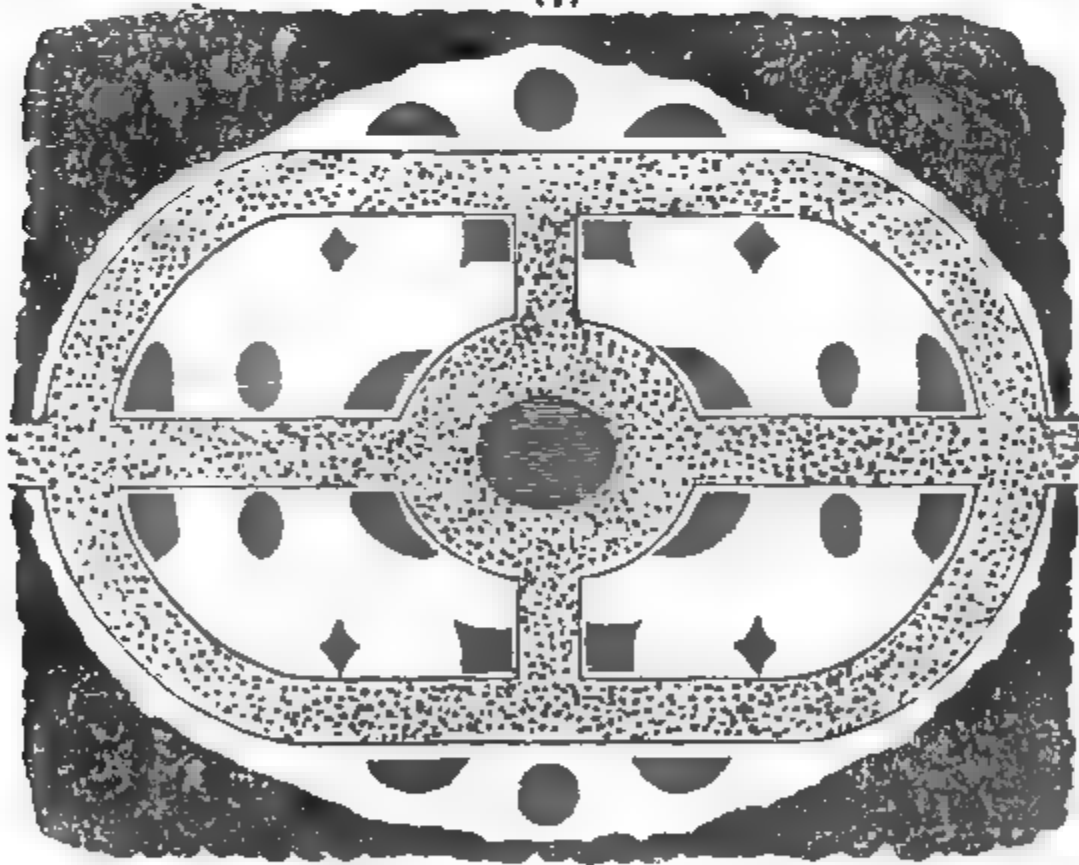


In a mixed flower-garden of trees and shrubs with baskets of flowers, hardy and exotic (*g*), there is a range of green-houses, full of showy plants in flower, and arranged in a manner well deserving general imitation in the

management of moderate collections, viz. the broadest-leaved plants are commenced with at one end of the house, and the narrowest-leaved ones at the other; the next broadest and the next narrowest are proceeded with from both ends, till the collection is joined where both sizes of leaves have merged into the medium size. When it is considered that in the winter time there are not many green-house plants in flower, and that their chief beauty at that season depends on their leaves, it will easily be conceived that this mode of arrangement produces considerable effect. It is also, as Mr. Toward informed us, better for the plants in point of watering, sun, and air. Interspersed with the general collection of green-house plants, were some fine specimens of stove plants, bulbs, and hardy plants, brought into flower in the reserve hot-house. Among these the *Schizanthus* was the most conspicuous. Against the end of these green-houses is a *Chimonanthus fràgrans*, which has ripened seeds; and in front is a *Fuchsia gràcilis*, which has stood two winters without any covering, and flowered luxuriantly during summer.

There are, in different spots, some exceedingly well executed covered seats in the rustic style (*h i k*); in one of them (*k*) the seat is formed of a collection of specimens of different sorts of wood grown in the gardens or park. There is a Dutch garden recently formed (*l*); it has a basin and fountain in the centre, surrounded and intersected by gravel walks, with twenty-four beds on grass, for growing the more choice florist's flowers in masses. (*fig. 117.*) There are an area for setting out the green-house

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plants (*m*); arbours in different situations, as in the centre of the rosary and herbaceous garden, &c., covered with twiners; a number of rustic vases, for containing plants, in the Dropmore manner; and a handsome architectural orangery, apart from this garden, in the wood. It is approached by a noble avenue (*n*), on a moderate ascent; and, in looking from the conservatory, five avenues, diverging in different directions through the descending wood, add greatly to the dignity of the scene. The orange trees are in excellent health, and covered with fruit and flowers.

What supports the perfect keeping of the whole is, a large reserve or nursery garden (o), containing several pits and frames, in which Mr. Toward carries on some professional practices which deserve to be better known, and of which we hope he will favour us with some account. Of these, the first that occurs to our recollection is his mode of piping, in March, the grass of the pink plants that have been forced in the past winter, and flowering the plants so produced in the September and October following. This practice, which we never before heard of, supplies much beauty to the flower-garden at a season when flowers are becoming scarce, and when there is scarcely any blossoms that are not yellow. Mr. Toward has large flowers of *Hydrangea* in pots of the smallest size, and the manner in which he procures these is as follows:—In April or May, he takes off the points of such young shoots as he judges, by feeling them, will produce flowers; these he strikes in a moist heat in those very small pots called thumbs; they root in a short time, when he transplants them into sixties, in which they flower in great luxuriance, forming a corymb, sometimes nearly a foot in diameter, and not more than 5 or 6 in. higher than the pot. *Lobelia erinoides*, struck from cuttings, and shifted from one pot into another, beginning with the smallest-sized pots, becomes a large and vigorous plant, either trained to a rod, or allowed to trail or hang down from an upper shelf, or a vase or rustic basket in the open air, and covered with its fine deep blue flowers during the whole summer.

In renewing rare plants by propagation, Mr. Toward takes one genus or natural family, as *Proteaceæ*, for example, at a time, and strikes as many plants as will keep up the stock. This systematic mode of proceeding has several advantages; among others, that of diminishing labour, inasmuch as one mode of treatment serves for a number of cuttings; and diminishing risk from neglect or accident, since it is easier to be correct in attending to the shading, airing, and watering of one set of things in one way, than of several sets of things in several ways.

In regard to order and keeping, every thing here was as we could wish it, considering the season of the year, and the circumstance of the family being absent. When the Duchess is at Bagshot, the keeping and polish of the pleasure-ground scenery is said to be carried to a very high pitch. The Duchess is much attached to Bagshot Park, and those who are placed there seem not less attached to her.

We were much gratified to observe Mr. Toward's taste for natural history, evinced by a collection of specimens in different departments, and an excellent herbarium in four thick folio volumes, mounted and bound in a superior manner, at the expense of the Duchess. It may be useful to state, that the binder was Mr. Perryman of Windsor, himself an ardent horticulturist, and one of the founders of the Gardeners' Society there. The number of species in this herbarium exceed three thousand. Mr. Toward began to collect them in Scotland when an apprentice, twelve years ago; and, about three years since, wishing to arrange them for reference, and the Duchess having kindly desired him to have them bound at her expense, he classed them according to the Linnean system, fixed them with gum to leaves of drawing cartridge paper, pasting to the back of each leaf a leaf of brown blotting paper, and round the margin of both surfaces of the double leaf so formed strips of cartridge paper. These strips rather more than compensate for the thickness of the dried specimens; so that when the leaves are bound up, their edges cut, and the book shut close, the external air is excluded, and the appearance as neat as that of any printed volume. A better mode of forming a specimen book we have never before seen. We should have preferred the Jussieuean mode of arranging the specimens, but Mr. Toward very properly preferred that of his time. The truth is, the natural system and its advantages are scarcely yet known even to the very first gardeners.

The kitchen-garden here only deserves notice for the sake of expressing our regret that a very excellent practical gardener, Mr. Smith, has not a more favourable scene for his operations. We saw, however, some good crops, and some excellent points of culture; among the latter, that of sowing all the small seeds in drills, the soil being well stirred between the rows in the early part of the summer. To insure a crop of onions, they are sown thick in autumn, generally in September, and transplanted in rows, 6 in. apart, and 3 in. distant in the row, in March or April. In transplanting, the bulb must be left above ground, and only the fibres made fast in the soil; otherwise the bulb will never swell. When it is attempted to transplant any of the fusiform-rooted esculents, as turnips, carrots, parsneps, beets, &c., the same principle should be attended to, and only the tip of the root made fast with the dibber, and all the upper part left perfectly loose. Asparagus is planted in single rows, 4 ft. apart, or, in other words, one row in a bed, and grows to an enormous size. Here, and at various other places of Middlesex and Surrey which we called at in this excursion, we found Bishop's Early Dwarf Pea in vigorous growth, and very much approved of. Old reed mats are laid down over beds of endive, and found to blanch them in a very perfect manner. The hand-glass fly-trap (Vol. II. p. 151.) is used both here and in the flower-gardens with perfect success; and in both gardens it has been found that mice are much more readily caught by the 4th figure trap, well known to gardeners, when it is baited with an acorn, than when it is baited with a pea or a bean, as is usually done.

ART. VII. *Domestic Economy.*

BRITISH WINES. — Sir, Your correspondent on the subject of British wines (Vol. II. p. 485.) is most tormentingly tantalising. He scouts poor Mr. R.'s wines; has a sly slap at the Caledonian Horticultural Society; assures us he is something of a chemist; raises our hopes, by stating he has had nearly twenty years' experience, and that his family are now drinking wines twelve years old; and, finally, leaves us in the lurch, for he neither communicates his name [he does, see p. 486.], nor gives us the least information how to make wine. My experience is very limited; but, like him, I have studied M'Culloch; and, as he very justly observes, have obtained from that gentleman's book the only rational ideas I have been able to collect. I find, the best wine I can make is from immature grapes; in that state they ferment rapidly, and communicate no bad taste. Indeed, the wine, if made with good lump sugar, is nearly tasteless; but flavour can be communicated to suit various tastes. I have racked some on the lees of fine claret, and others on the lees of Madeira, adding some bitter almond or peach kernels. The most successful British wine, but, at the same time, the most extravagant, is the imitation of brisk champagne; its extreme briskness, indeed, sometimes breaks the bottle. I cannot yet succeed in giving this the true taste; but, I am disposed to believe it may be done, by putting into the cask some few young cones of the spruce fir. These are extremely aromatic, and, at the same time, have a little taste of turpentine, which, I think, I can detect, in a small degree, in true champagne. If the wine I am making this season prove as good as usual, I shall add the cones next summer. I once tried the leaves and tendrils, but could never get the wine fine; it however made most capital vinegar, but the body of the wine was so sound, that it required nearly two years' exposure in a cask, against a south wall, before it was fairly converted into vinegar, and then it proved clear. I believe that grapes from old vines will be better than from young vines, at least I fancy I find a difference. I do not pretend to say that I have made wines equal to

good foreign, but I consider them decidedly superior to the general run of currant and gooseberry wines; and also more wholesome, and more palatable, than the wines sold as foreign (particularly sherry), at three taverns out of four. Except for brisk wine, I always rack the wine off into a sulphured cask. All English wines should be allowed the same chance for success as foreign, by being kept in the cask two or three years, and nearly as long in bottle.

The following recipe, from M'Culloch, I have found answer very well:—Forty pounds unripe grapes, picked from the stalks; bruise them in a mortar, but do not break the seeds; put them in a tub, just covering them with water; have them well squeezed repeatedly. At the end of the second, or, at most, the third day, strain off the liquor, and dissolve from 36 to 40 lbs. good lump sugar, so as to make the quantity up to 10 gallons. In two or three days more, draw it off, clear of sediment or scum, by a peg at the side, and near the bottom of the tub, and put it into the cask in the cellar. Put on the bung lightly at first, but, as soon as it can be done safely, drive it in hard, giving vent as may be necessary by a peg. It should remain in cask till the March twelvemonth following, and then be racked off into a well sulphured cask, containing the lees of good wines, or such substances as are intended to communicate the flavour. If it remain another year or two, so much the better; then, if necessary, fine it, and bottle it off. If kept in bottle two years, it will puzzle some of the knowing ones, though, perhaps, may not please the old ladies who admire their own sugar-water and orange-peel. To be in proper keeping with my "cognomen," I shall soon address you on other subjects widely different. — *Zig-zag. Forest, Sept. 10. 1827.*

To preserve Potatoes in a proper state for Food for many years, it is only necessary to scald them, or subject them to a heated oven, for a few minutes. By doing this they will never sprout, and the farinaceous substance will keep good for many years, provided the cortical part be entire. They should be well dried after being scalded. (*Worcester Herald, July 19.*)

A Cream Gauge is a very useful appendage to a dairy. This is a glass tube, exactly cylindrical, of about 1 in. in diameter, and 10½ in. long. On its outside is a graduated scale, 3 in. long, and each inch is divided into 10 equal parts. The scale commences at exactly the height of 10 in. from the bottom of the tube; it is numbered, and counts downwards. Being filled up to 10 in. high with new milk, of a proper temperature, it is set by in the dairy for 12 hours, in which time the cream will all of it have risen to the top of the tube, if the cow be a proper one from which to make butter. (*Waistell on Agr. Build., p. 29.*)

Application of Medicine by Absorption.—The application of certain powerful remedies, by applying them to the skin, promises to be of considerable importance in domestic medicine. The great advantage of this practice over the internal administration of medicine is, the exemption of the digestive organs from an inconvenient or unaccustomed stimulus; a matter of great importance when the stomach is incapable of retaining medicines, or the power of deglutition lost, or greatly impaired. M. Bailly, of Paris, has given the following results, which we quote from the medical repository:—

The action of *Salts of Morphia* (as a substitute for opium) applied to the skin, is speedily exhibited upon the brain and nervous system, by the contraction of the pupils, and often by dysuria and ischuria; nausea and vomiting are rare; sometimes a sensation of itching is felt in the nasal cavities, and papular eruptions not unfrequently appear upon the skin.

The application of *Extract of Belladonna* upon the upper surface of the feet, produced all the consequences derived from its internal exhibition; such as dilatation of the pupil, and impaired vision.

While *Extract of Squill* augments transpiration, it promotes the urinary secretion, and facilitates expectoration.

Well-powdered *Strychnine* supports the suppuration of wounds tolerably well, and stimulates the locomotive system, without inconveniently exciting the brain. It happens also in certain palsies, such as those which are caused by the carbonate of lead, that the power of motion is restored, without the production of those violent shocks which have been so unpleasant to patients. M. Bailly has observed, with respect to this medicine in general, that it often excites a marked turgescence about the head, heightening the colour of the face, which demands the suspension of the remedy, if not the intervention of blood-letting. (*Brande's Quar. Jour.*, Jan. 1828, p. 494.)

ART. VIII. *Retrospective Criticism.*

HEATING Hot-houses by Hot Water.—Sir, I have just read, in your Magazine (Vol. III. p. 423.), a letter from a Mr. John Barrow of London, claiming on behalf of Mr. Atkinson (by whom he was employed), the first suggestion of heating forcing-houses by hot water in the early part of 1822, and also the first adoption of it in the latter end of the same year. Mr. Barrow observes: "That in the year following (which, of course, would be 1823), Mr. Atkinson was introduced to Mr. Anthony Bacon, who then lived at Benham, near Newbury, where he had made some experiments in heating forcing-houses with hot water, but no house had been heated to prove how far Mr. Bacon's plan would answer; his (Mr. Bacon's) first attempt was made at Abernaen (read Aberaman) in Glamorganshire, in 1822, with one large cast-iron pipe about 12 ft. long," &c.

"This however not being found to answer," continues Mr. Barrow, "it was upon Mr. Atkinson's explaining the principle of action in his model, and the necessity of having two pipes to cause circulation, that Mr. Bacon allowed him to adopt his own plan for the forcing-house at Elcot, and I was employed under Mr. Atkinson's direction, and executed the boiler and pipes for one vinery; and when this house had been tried with success, Mr. Bacon had other houses done upon the same plan, which were executed under Mr. Atkinson's direction, and I had an opportunity of seeing what Mr. Bacon had done, and also had his model, which went to the extent of his invention. I have tried it on my own premises, and am quite convinced, as far as his invention went, it never could have been successfully applied."

Now, Sir, for as much as Mr. Barrow only acted under Mr. Atkinson's directions, I can easily understand him to have believed what he writes, and not to have seen any other model of my brother's than the above named; I cannot, however, so easily understand how Mr. Atkinson could have been ignorant (if ignorant he was), that, so far from the single pipe being either the extent of my poor brother's invention, or his first and unsuccessful attempt, it was, on the contrary, only a second experiment made here to try how far iron and fuel might thereby be saved! No, Sir; his first and successful attempt with the two pipes was made here in the year 1821, solely under my brother's direction, as the bills in my possession, and the workmen now in my employ will clearly prove, as well as that the whole apparatus has continued to act as perfectly and satisfactorily ever since! So much so, indeed, that the forcing-houses at Elcot (my late brother's newly built residence in Berkshire) have been fitted up on the same plan. This a letter addressed by Mr. Whale, the gardener at Elcot, to the Horticultural Society, and afterwards published in your Magazine (Vol. III. p. 186.), will fully testify.

I beg pardon for having troubled you at such length, but I considered it due to the memory of my late brother, to show that, however the heating of rooms by hot water may have been partially suggested or adopted by

Bolton and Watts, Chambers, and others, the first and most successful application of the system to forcing-houses, alone belonged to my late brother, Mr. Anthony Bacon. I remain, Sir, yours, &c. — *Thomas Bacon. Aberdeen, August 10. 1828.*

Gardeners' Wages. — Many persons think with me, that some of the remarks in the Gardener's Magazine, relative to the education and remuneration of gardeners, are calculated to make them dissatisfied and presuming. — *Z. Nov. 3. 1827.*

The introduction of letters, drawing comparative views of different dependents in gentlemen's families, must surely tend to make gardeners dissatisfied with their employers. Masters can only wish to make their servants comfortable, in return for their services; and, on the score of compensation, recollect that the lawyer and the physician receive the same fees now which their ancestors did in the four last reigns of our kings. — *X.Y.Z. March 3. 1828.*

Though the above are the only communications of the kind which have been sent us since the commencement of this Magazine, yet, as it is not improbable that they may indicate the sentiments of several of our readers, we have inserted them for the purpose of giving the feeling utterance, and a fair chance of effecting what it can, for or against our editorial judgment. If any thing we publish should have a tendency either to make gardeners discontented, or their employers displeased, without sufficient reason, our conduct would be decidedly wrong. We think we have hitherto kept within due bounds, and consider the remarks of "Z.," and "X. Y. Z.," rather as cautionary hints with a view to the future, than as positive blame for what is past. The fact is, that whether we are right or wrong in having admitted such papers, no harm can result from them, in a practical point of view, to gentlemen who employ gardeners, in the present state of this country. There never was a time when masters and employers of every kind, had less to fear from servants and the employed, than they have at this moment; for the supply of labour, of all descriptions, far exceeds the demand. Every nursery is stocked with gardeners in want of situations, and, therefore, if any master finds occasion to change, he has only to write to the nearest nurseryman, and describe what he wants. It is incomparably easier to get a good gardener than a good footman; and it is, perhaps, creditable to human nature, that the latter condition requires to be better paid, fed, and lodged, than the former. It is very natural and proper that gardeners should wish to have their wages raised, but no gentleman need comply with their wishes from any feeling of compulsion, or need ever have the slightest fear of being a moment without a good gardener. While we state this on the one hand, it is proper that we should also state, on the other, that we think no employer who understands his own interest, will ever calculate on gaining much by lowering the wages of any servant so situated as a gardener. The duties of this department of a country establishment are so extensive, so various, and so much of the comfort and enjoyment of country life depends on the manner in which they are executed, that, to dishearten a gardener in any way, must be the very worst policy. Take away from a country-seat all that is under the charge of the gardener, and what would a residence there be worth? Compare one country-seat with another, and observe how much of that residence which has the superiority, is the result of the care and skill of the gardener. If gardeners were not men of extraordinary devotedness to their profession, of unceasing care and attention, of comparative purity and simplicity in their manner of life, and, let us add, of comparative intellectual superiority, they would never fulfil the duties of their situations for the very moderate share of comforts which are allotted to them. Compare them in any point of view with any other servant about a gentleman's establishment. Have their wages been increased in the same proportion as those of house-servants? Yet, it is certain, the duties of a

gardener, within these few years, since forcing and the culture of exotics and of various new culinary and ornamental plants and fruits, have been introduced, have greatly increased. However, we shall leave the matter to itself; the price paid for gardeners, as for every thing else, will find its own level. All our wonder is, that more gardeners do not emigrate to America; and we have no hesitation in telling those of them who are only fit for the lower departments of the profession, who are in fact not reading gardeners, that they never can expect to rise much higher than common country labourers. The influx of agricultural labourers from Ireland and other countries has been, and will probably for a long period of time continue to be, so great, that a gardener has no chance but in raising himself to the highest order of the profession in this country, or in departing for a country where, in consequence of the want of gardeners, any gardener is in demand. It is no difficult matter to render an expert agricultural labourer a tolerable gardener of the lowest class, even in the present state of things; and when, as we have no doubt will be the case in a few years, the agricultural population of the country shall be a reading population, they will tread still more closely on the heels of the gardener. When Ireland shall have become so enlightened, that her surplus hands will seek abroad for higher occupations than those of the lowest kinds of English labour, the profession of gardeners will be still more encroached on by a new race of Irish gardeners, and to that will be added the surplus population of other countries. For, the more the nations of the world become enlightened and free, the greater will be the tendency of the labourers of rude countries to carry their labour to those which are richer and more refined. It is true that the operation of the same principles may end in there being no native Englishmen in the condition of common labourers at all; and that the time may come, and we hope it will come, when all the male population of England will be so enlightened and improved, that neither common labourers nor livery servants will be found among them, and that footmen will require to be imported from Africa and Asia, and coachmen and grooms from Russia and Tartary. The tendency is this way: every condition is rising into that which is above it, and the population of poor countries ready to overrun countries which are rich. We repeat that there is no safety for the young gardener, but in rising into the highest ranks of his profession; or for his posterity, but in educating them to the utmost.

Whenever we have been consulted as to the wages of gardeners, our advice has always been to increase their comforts by additions in kind, rather than by additions in money; to give a more commodious house to live in, a proper office for seeds, &c., and a good library; fuel, lights, a cow, pigs, poultry, flour or meal, potatoes, and to pay for the education of one or two of the children.

Lombardy and Black Italian Poplars. — I have to thank Suffolciensis, (p. 185.), for correcting my error respecting the value of the timber of the Lombardy Poplar, compared with that of the Black Italian. The former being so full of knots is worth very little, but the value of the latter is 1s. 6d. per foot in this neighbourhood, which makes my calculation in (Vol. III. p. 410.) still correct. In the beginning of the year 1826, I planted upwards of 1000 cuttings, some of them 10 or 12 ft. long, of various sorts. The Black Italian made the greatest progress, many of them being 6 in. in circumference. They are planted on a poor wet gravel, which before produced little except rushes. — C. F. W. *Drayton, near Fazeley, July 15.*

Tally Pegs. — I buy my garden nails of 2, 3, or 4 lbs. the thousand, at 3d. per lb., and I should think that any cast-iron articles in quantities might be had under 30s. the cwt.; but they must be got from the country, where the work is not only much cheaper, but infinitely superior to London castings. I should think a young ironmonger might command a good business, if he

made a point of supplying gardener's iron of good quality, at a reasonable rate. — *Superficial.* *Brixton Villa, June.*

Campanilla, or *Ipomœa carnea*, you mention (p. 278.) as an annual; is it not rather a perennial? Jacquin, in his *Selectarum Stirpium Americanarum Historia*, Manheim, 1788, p. 35. says: "Ex semine nata in caldario horti Vindobonensis per *plures* annos læte vegetavit, altissima excrevit, sed tandem sine ulla fructificatione interiit;" and the plant which has been now flourishing for upwards of two years at Mr. Pontey's, seems disposed to follow its example, having shown no disposition to flower as yet. As, however, the life of many annuals is prolonged, when they have been prevented from reproducing their species, it is possible that the *Campanilla*, being prevented by change of climate from flowering, may be thus forced, contrary to its natural habits, to become to a certain extent perennial. Can you then inform me whether it really is annual or perennial, and whether it has ever flowered in our hot-houses? What I have just said, brings to my recollection the method pursued in the West Indies, of artificially prolonging the life of the *Agave americana*, which is frequently used for fences, and dies as soon as it has completed its fructification, in which case gaps would be occasioned in the fence formed with it; to prevent this, the planters cut down the scape, or flowering stems, before it flowers; and by thus protracting the fructification, protract, almost indefinitely, the decay of the plant. At Barbadoes the *Yucca aloëfolia* is employed (planted in a single row) for fences, in the same manner as the *Agave* in other islands, and the fences so constructed appeared to me equally impervious to man and beasts. Of their durability I know nothing. — *W. Hamilton. Oxford Place, Plymouth, August 6. 1828.*

Iron-roofed Hot-houses. — Your correspondent, Agronome (p. 310.), after speaking in favour of iron-roofed hot-houses, says, "at the same time, I acknowledge that iron decays very fast," &c., and seems desirous to be made acquainted with a timber which might be advantageously substituted for both iron and the timber at present in use. South America and the West Indies abound in many timbers of this description, which, from strength, hardness, and durability, are preferable even to iron, though, possibly, rafters made of them may require a somewhat greater thickness. That which I conceive most likely to answer is, the *Zygophyllum arboreum*, or Guayacan tree, known also in the vicinity of Cumana by the names of Bera and Palo sano, and at Carthagená by that of Palo santo. It is a tree of 40 ft. high, according to Jacquin, producing, in July, a profusion of golden flowers, which make, as Humboldt tells us, in his *Personal Narrative*, vol. iii. p. 8., a most beautiful appearance, when viewed from the top of the hill of San Francisco. Its timber is of large size, reddish colour, and close, fine, compact grain, admitting of being easily washed. The weight of the cubic foot is 70 lb. 10 oz. 294 grs., while a similar cube of African timber weighs 65 lbs. 10 oz. 21 grs., and of best British oak 53 lbs. 49 grs., giving for their relative gravity, taking oak as the standard, Guayaca 1.3333, African timber, 1.3238. and oak, 1.0000. Of this timber, main timbers of houses eight stories high, in Guayaquil, are constructed, and last for an indefinite number of years, proving both the extraordinary strength and durability of this timber, of which a late Spanish writer, Don Jose Ignacio de Pombo, one of the friends of the illustrious Mutis, and highly spoken of by Humboldt, in the sixth volume of his *Personal Narrative*, says, in a treatise on the natural productions of the province of Carthagená, that it is "tan compacta, solida, y pesada como el mismo hierro; y todos producen una resina que tiene las mismas virtudes de su madera; y que *baño del agua* se conviertan en piedra;" and Jacquin adds to his account, "Incolis dicitur Guayacan, quo apud illos generico nomine appellantur omnia ligna dura materiaturæ aptissima. Fertur ipsius truncus, sub terra sepultus in lapidem mutari, *nec unquam corrumpi.*" From its united qualities of strength, size, and durability, I have been led to re-

commend its application to naval architecture, for those parts of ships especially which are constantly under water, as by constructing those parts of a timber specifically heavier than that employed in the upper works, the vessel would be stiffer in the water, while, from the nature of the timber, her duration would be almost eternal. The utility of this timber for piles, large buildings, and even for rafters for hot-houses, appears also equally obvious; since it would neither be subject to rot, like ordinary timber, nor to rust, as iron does even with the precaution of frequent painting. — *Id.*

The Locust Tree. — Your correspondent furnishes a striking instance of the necessity of always referring local names to some scientific standard, since, from a want of attention to this, he has confounded two trees which have nothing in common, but their vulgar English name, viz. the Locust tree, landed by Cobbett, and that described by Mr. Henry Phillips. The former of these is a native of North America, common enough in our pleasure-grounds, under the equally improper name of the Acacia. It is the *Robínia Pseudacácia*, a handsome spreading tree, with diadelphous flowers, and producing pods destitute of all internal or edible pulp. While the latter, the Courbaril tree of Dominica and the French Islands, and the Locust tree of the British islands, is the *Hymenæa Courbaril*, a tree of large dimensions, producing decandrous flowers, followed by a large ligneous pod, containing seeds enveloped in a yellow saccharine pulp of a strong and unpleasant odour, eaten by the negroes, and extremely nourishing. The timber of this tree is of a fine mahogany colour and grain, extreme hardness, susceptible of a high polish, and well adapted for furniture, &c.; it is of considerable durability when protected from the weather, but decaying soon on exposure to humidity, and the vicissitudes of the seasons. — *Id.*

Winter's Rest to Extra-tropical Plants. — Your correspondent, J. A. M. (p. 314.), speaking of the necessity of winter's rest to most extra-tropical plants, adds: "Vines planted within the tropics never do well. The continual excitement renders them weak, irregular in growth, and almost always barren." Whence your correspondent has obtained this information I cannot conjecture, since it is totally the reverse of my experience, never having seen vines growing more vigorously, or producing more abundant crops, than at the house of a friend of mine in the West Indies, who, by training them over an arbour, and judiciously pruning them in the wane of the moon, after gathering the crop, succeeded in obtaining four crops annually, which is more than any grape vines here, even with the protection of a house, ever yield. During a residence of many years within the tropics, I never witnessed a want of vigour in the grape vine, or want of productiveness in its returns. — *Id.*

List of Plants from Seed, furnished by Mr. Watts, of Carthagena, to Dr. Hamilton, and now growing at Mr. Pontey's nursery, Plymouth. — *Ipomœa pilosa*. *Hyperanthera Moringa*, or Horseradish tree, the root of which is equal to horseradish, while the seed yields the famous oil of ben. *Cánna* (tuberòsa), or el Achira, a species of *Cánna*, from the Chocó, closely resembling the *C. indica*, but bearing a farinaceous esculent root. El Fraylecillo, a climber of the family of *Euphorbiaceæ*, of which Father Gumilla gives the following wonderful account: — "Llamo la atencion de los fisicos sobre el Fraylecillo ò Tuatua. Quantas ojos comiere, tantas evacuaciones ha de expeler. Si arranca las ojos tirano hacia abaxo, cada oja causa una evacuacion; si las arranca hacia arriba, causan vomitos; y si arrancan unas para arriba y otras hacia abaxo concurre uno y otro efecto." (*Gumilla*, vol. ii. p. 298.) Pita Plant, of the family of *Bromeliaceæ*, producing a fibre superior to either flax or hemp for strength and durability. La Pacunga. El Pepinito Oriolla, a species of *Cucumis* (new?), the fruit of which, when boiled and dressed in the French manner, is an excellent table vegetable. El Pepino, a (new?) species of *Cucúrbita*. El Sorosi, a handsome climber, bearing a long orange-coloured fruit, the pulp of which is eatable; the seeds

are shaped much like a fiddle. *Viva sèca* from Arjona, and *Viva sèca* from the Caña Loro, sent as the seed of the *Diphysa carthagenensis*, which they are not; one appears to belong to a species of *Æschynomene*, the pods being composed of joints. — I should be obliged by any of your correspondents, to whom you have distributed the seeds I have occasionally sent you, inserting a similar list of those which have succeeded with him, accompanied by observations on their culture, &c. I regret to find the cow cabbage seed failed last year; I have been favoured with some fresh this summer, most of which I have distributed to persons who applied for it, not forgetting Mr. Thompson, of Welbeck Gardens. — *Id.*

Common Salt has been tried here on Asparagus, but the effects found quite otherwise than very beneficial. May not a plant, that naturally prefers salt, be artificially improved by the absence of salt, as celery, which, in a wild state, grows in watery places, is rendered crisp and solid when grown in rich, and, compared with a marsh, dry, garden soil? The art of improving vegetables by culture, does not consist in a servile imitation of nature, but in studying the causes which produce particular effects. — *J. M. P. Philadelphia, May, 1828*

Destroying Insects by Quicksilver, — The first notice on record of the practicability of banishing insects from fruit trees, by inserting half an ounce of quicksilver in a gimlet-hole bored into the stem, occurs, in the fourth edition of *Bradley's New Improvements of Gardening, &c.*, published in 1724, p. 249. Bradley, it seems, was not the inventor of this exploded nostrum; but believed in its efficacy. In the same work (p. 66.) is a drawing of a machine, with angular glasses for reflecting colours into regular forms; the origin, probably of those kaleidoscopic toys sold at country fairs for these sixty years past, and also of the famous modern machine of Dr. Brewster. (See *Encyc. of Gard.*, fig. 551. § 6108.) — *Superficial. Brixton Villa, April, 1828.*

Etymology of the Names of Plants. — Sir, as you express yourself desirous to elucidate the etymology of the names of plants, I beg permission to notice that *Strýchnus* (Στρυχνος), which your correspondent derives from *strōn-nymi* (στρωννυμι), or rather from its primitive verb *strōō* (στρωω), is given by Hederic, Scapula, and the learned Stephens, in his *Thesaurus*, as a primitive; all analogy is adverse to your correspondent's derivation, no instances, I believe, can be found, of the ω (long ō, or omega) being converted, in its derivatives, into the υ (y). The names of many plants, as well as of animals, are primitives, or, at least, their derivation is hidden in such remote antiquity, that it cannot now be ascertained; and we therefore may be contented to consider such words to be so, for which the most industrious and judicious Greek philologists have found themselves unable to assign any root. Plants are amongst the earliest objects which would strike the senses of the first authors of language; they would have occasion to affix marks of distinction to them, at a time when the store of ideas whence they might borrow names would be extremely limited. Why, therefore, should not the names of plants as frequently be primitives, as any words whatever? — *Causidicus. July 24. 1828.*

Esculent Cánna. — If the esculent Cánna, which Mr. William Hamilton, of Plymouth, mentions, be equally hardy with the Cánna índica, he may be assured that he may propagate it with facility in his garden at Plymouth, where the *C. índica* will freely increase, even so as to be troublesome in a few years. I am, Sir, &c. — *Id.*

ART. IX. *Queries and Answers to Queries.*

SCIONS of the Forbidden Fruit, &c.—Sir, Permit me, through the medium of your instructive and entertaining Gardener's Magazine, to return my sincere thanks to your correspondent "An Amateur," for his very friendly and kind offer (contained in your last Number) of giving me scions of the Forbidden Fruit, the Pompoleon, Sweet Lemon, Sweet Lime, and Kitley Shaddock, which I most readily accept, and shall feel greatly obliged to him for them; and I also thank him very much for his obliging answer to my queries respecting this interesting tribe of plants. The scions "An Amateur" is so kind and liberal as to offer me, I shall receive safely, if sent, by a Liverpool coach, directed for P. D., to the care of Robert Sherbourne, Esq., Post-office, Prescott, Lancashire. My reason for not sending any of my four shaddocks to the exhibitions of the Horticultural Society was, that I really thought it would be improper to offer any fruit that was not perfect of its kind; but I shall have very great pleasure in sending your correspondent "An Amateur" a couple of the fruit, as a specimen of what the plant produces, if he thinks them worth his acceptance, and will please to inform me how to forward them to him, and I will, with pleasure, pay the carriage of them. The fruit is yet in a green state, there are 24 fruit on the plant, this being the third year it has fruited, and it has produced about the same number of fruit each year. Many thanks to "An Amateur," for mentioning M. A. Risso's work on the orange tribe, which I have not yet met with, but will endeavour to see it. I am, Sir, &c. — P. D. *Liverpool, Aug. 20. 1828.*

Natural History of the Lady-Bird; in answer to R. B., p. 159.—I beg to assure your correspondent that these little insects do not visit him with threats of plague, but, on the contrary, rather as mediators to stay it. The lady-bird is one, amongst other insect destroyers, ordained to keep the aphides under subjection, and it proves far more destructive to them in the larva than in the perfect state. The larva of the most common species of lady-bird, when full grown, are of a bluish black, about half an inch long, obtuse-headed, and tapering to the lower extremity; it has six legs, and ten annular joints round the body; and each division has six tubercles, furnished with a few short hairs. The eggs are buff-coloured, and cylindrical, deposited in groups of about fifty, close together on their ends, on the under sides of leaves and plants infested by the aphides; from which eggs the young soon issue. The first brood are produced about the end of May, and in a few weeks are transformed to the perfect state. The perfect insect pursues its prey through most part of spring, summer, and autumn. The latter brood retire in chinks, &c., in winter, and those that survive to the following spring produce the brood for the succeeding year. I am, Sir, &c. — *Jos. Major, Landscape-Gardener. Knowstrop, near Leeds, June 14. 1828.*

Brown Grubs. — Mr. Lee, of Bristol, (Vol. III. p. 453.) should send two or three of the "brown grubs" he writes about, to some entomologist, who will ascertain the species of insect to which they belong. Until this is done, there is as little chance of a proper remedy being advised, as there is of a physician in England, prescribing successfully for a sick mandarin in China. — M. P. *March 16.*

The Spot in Cucumbers and Melons (in answer to F. of Yarmouth, p. 189.) is caused by want of warmth, and stagnation of moisture beneath.—*Robert Errington. Oulton Park, Cheshire.*

Mignonette; in answer to F. of Yarmouth. (p. 189.)—To flower the plants before Christmas, sow about August 10th; to flower them at the end of January and beginning of February, sow about August 25th; to flower them in March and April, sow about September 5th. The plants must be transplanted into 48-sized pots, with the bottoms well drained, in a compost

of two fourths mellow loam, one fourth leaf mould, and one fourth sand, coarsely sifted. Keep the pots nearly close to the glass, give plenty of air in open weather, and keep off all excessive wet. Give the frame a good elevation behind, mat up closely in frosty nights, and thin the plants to about 6 in. or 7 in., plant from plant, pinching off the centre shoots from the plants of the two latter sowings. — *Id.*

Pindars (p. 151.) is the name commonly given in the West Indies, and especially in Barbadoes, to the ground nuts, or seeds, of the *A'rachis hypogæia*. — *Id.* July 8.

Polyanthuses and Pinks. — My present avocations have engrossed my attention for so many years, that my favourite pursuit had lain dormant until your Magazine awakened it; and I wish to amuse my latter days, with that greatest solace, next to religion, a flower-garden. For this purpose, I wish to go to the best and cheapest gardeners. At present, I shall confine myself to polyanthuses and pinks, and superior kinds of all the newest but beautiful kinds of herbaceous plants; for I am so little at home, that I dare not venture on auriculas or carnations at present; but I should be anxious to procure all the double and semi-double dahlias, and Chinese chrysanthemums. If you could spare a moment to instruct me where I am most likely to get the kinds I have mentioned, on the most reasonable terms, I shall feel highly obliged. I am aware that those high in the fancy ask high prices, especially for new kinds, but I wish for the old *fine* kinds that would bear seed, and I shall soon improve on them; for I was once very high in the fancy, and I should expect to be treated *as one of the trade*. Dear Sir, yours, &c. — *Hely Dutton. Ballinasloe, June 26. 1828.*

We can recommend our correspondent to any of the principal towns of Lancashire for polyanthuses, to Paisley for pinks, and to the Glasgow botanic garden for the other articles. We hope some of our readers at these places will enter into correspondence with Mr. Dutton. — *Cond.*

The proper soil, mode of culture, situation, mode of propagation, &c., of the following plants, I am much in want of: — Nuttallia digitata; Lilium camtschatcense (Fritillaria lanceolata of Pursh), and pumilum Bot. Reg., p. 132.; Tulipa tricolor Sweet's Hortus Britannicus, and Celsiana Bot. Mag. p. 717. (Tulipa persica of Dutch nurserymen).

The following plants I am desirous of purchasing: — *Lilium pudicum Pursh. (Fritillaria pudica Sprengel's Systema), andinum Sweet's H. B., croceum Link's Enum. Plant., latifolium Link's Enum. Plant., and glabrum Sweet's H. B.; Tulipa biflora Bot. Register, p. 535., altaica, and præcox Sweet's Br. Fl. Garden, p. 157.; Colchicum byzantinum Bot. Mag., arenarium Sprengel's Syst., and versicolor Bot. Register; Muscari pallens Sw. Br. Fl. Garden, p. 259., and ciliatum Bot. Register; Puschkinia scilloides Bot. Mag.; Scilla esculenta alba Bot. Mag.; Sternbergia colchiciflora, and Clusiana; Primula glaucescens Sweet's Brit. Fl. Garden, p. 254.; Iris caucásica, and lusitánica. [In the Epsom nursery.—Cond.]—David Falconar. Carlourie, July 8. 1828.*

Tulipa Sibthorpiana. — There is a species of tulip described in the *Prodromus Floræ Græcæ* by Sir James Smith, *Tulipa Sibthorpiana*, first found by Dr. Sibthorp, near Porto Cavalieri in Asia Minor, and afterwards on the low rocky mountain Navarin. Can you inform me if this plant has been introduced into this country, and where bulbs of it are to be purchased? — *David Falconar. Carlourie, near Edinburgh, July 28. 1828.* [It is not in the *Hortus Epsomensis*, and therefore must be very scarce. — *Cond.*]

Double Cowslip. — I beg to enquire whether you, or any of your correspondents, are acquainted with the double cowslip (*Primula vèris*). I do not mean a cowslip with a two-fold corolla, hose in hose, as it is termed, but with a strictly double blossom, like a rose flore pleno. If it is still cultivated in our gardens, it is certainly very rare. Some years ago, I knew an old nurseryman near Birmingham, a great lover of plants, who had been all

his life looking out for this variety, without ever being able to meet with it; and yet, that it was formerly a very common inhabitant of our gardens, is unquestionable. It is mentioned by Gerarde and Parkinson, under the name of Double Paigle or Paigles, the old name for cowslip, and figured in the works of both these authors, the former of whom says it "is so commonly known, that it needeth no description." Our English gardens, it seems, were formerly rich in the varieties of primroses and cowslips. Parkinson begins the 35th chapter of his *Paradisus*, by saying, "We have so great a variety of primroses and cowslips of our own country breeding, that strangers being much delighted with them, have been often furnished into divers countries, to their good content." The rude wooden cuts which illustrate the old herbals, present us with many singular varieties of these plants, which, I believe, are now quite unknown to modern cultivators. Among those which, it is supposed, have been long since lost to our gardens, may be mentioned a curious primrose, of which Gerarde gives the following and amusing account: — "There is a strange primrose found in a wood in Yorkshire, growing wild, by the travel and industry of a learned gentleman of Lancashire, called Master Thomas Hesketh, and a diligent searcher of simples, who hath not only brought to light this amiable and pleasant primrose, but many others likewise, never before his time remembered or found out." I have been told that "Master Hesketh's Primrose" had long been an object of fruitless desire and enquiry with the late Mr. Curtis, author of *Flora Londinensis* and the *Botanical Magazine*, who had, in vain, sought for it in various parts of the country; in the former of those works, indeed, he speaks of the variety as deserving of culture for its singularity. The double cowslip, once so common in our gardens, I suspect, may have shared the same fate as "Master Hesketh's Primrose." Like Mr. Curtis, I should be well pleased to see them restored to our collections. Some friends of my own, I have understood, while gathering cowslips in a large meadow in Staffordshire, once met with a double one, of which they plucked the flower; but, failing to mark the spot, were unable to find the root afterwards, nor could they, by the most diligent search in succeeding seasons, ever meet with the variety again.

I have to apologise for straying so far from the subject I commenced with; and will only observe further, that, by sowing the seed of the wild cowslip in the garden, a number of varieties will be produced, some of which have flowers of a beautiful bright red colour. May not this process be the first step towards the formation of our garden polyanthus; if that be not, as is generally supposed, a variety of the primrose rather than of the cowslip? — *W. T. Bree. Allesley Rectory, July 9. 1828.*

Number of Men requisite to keep a Garden in order. — A correspondent wishes to know how many men he should regularly employ, to keep in good order a gentleman's kitchen-garden, consisting of 2 acres, with 420 yards of walling, covered with fruit trees; also, the same quantity of pleasure-ground, &c. &c.; and whether his men have any right to work before or after their regular hours, of six in the morning and six in the evening, in watering the garden, &c., without being paid for the same. — *Shipston, May 21. 1828.*

Pine-apples. — I wish J. Housman (p. 186.) had answered my query more fully respecting pines. He is quite wrong in supposing that I prefer the Providence; I merely stated that I thought it would attain the largest size. There are many pines which bear a very high character among the gardeners in this neighbourhood; for instance, the Enville, the Globe, and the Otaheite; yet these are not even mentioned in the first or second editions of your *Encyclopædia*, or in the *Treatise on the Pine* by a M.H.S. Suppose J. H. were confined to the cultivation of four sorts only, which would they be? or if he were confined to one sort, would he prefer the Black Jamaica to the Queen? I have seen a variety of the Queen with a very

small crown, is it the Ripley? Waiting an early answer from J. H., or any other of your valuable correspondents, I am, Sir, &c. — *C. F. W. Drayton, near Fazeley, July 15. 1828.*

Large Oxen.—Soon after leaving Taganroz, many ploughs were at work, and a most extraordinary effect they had, being drawn by ten oxen, looking in colour and size not unlike elephants. (*Captain Jones's Travels in Norway, &c.*) What breed is this? — *Rusticus in Urbe.*

The Psidium Cattleianum (p. 278.) appears well adapted for the climate of the south and west of England; is its fruit as good as that of the common Guava of the West Indies? where can plants of it be had? how is it most expeditiously propagated? at what price are the plants to be had? and what are its favourite soil, and best mode of treatment? I should wish, if possible, to introduce it into this neighbourhood. — *W. Hamilton. Plymouth, Aug. 6. 1828.*

Myrica cerifera.—Why is not the culture of the *Myrica cerifera* encouraged here as it is in the Netherlands, with a view to the manufacture of its wax, by some of our agricultural or horticultural societies? Surely the substitution of this odoriferous wax (of our own growth) for the unsavoury tallow of Russia, if practicable, is highly desirable. Our climate is certainly as favourable as that of the Netherlands, or the vicinity of Berlin, and suitable soil may be naturally found, or artificially created. I should wish to see hints as to its culture, proper soil and situation, age at which it comes into bearing, and length of time each plant continues productive, from the pen of some of your practical correspondents. — *Id. Aug. 6. 1828.*

Norwegian Fruit.—Captain George M. Jones, in his *Travels in Norway, Sweden, &c.*, says, that at Sabrofos, on the river Langen, near Kongsberg, in Norway, he found on the banks of the river some delicious wild white and red berries, not unlike small grapes, ripe about the middle of August. What are they? — *Rusticus in Urbe. July, 1828.*

Preservation of Apples, &c.—At Glenshamma the inhabitants prepare apples to keep by skinning, quartering, and half-baking them. They have a shrivelled appearance, but retain their flavour, and will keep any length of time. Might they not be so prepared in this country for sea? and may we not be able to discover some mode of preserving green peas, French beans, and broad beans for winter and spring use? Some mode, I mean, that could be adopted on a large scale. — *Id.*

Champignons.—Captain G. M. Jones, in his *Travels in Norway, &c.*, when at Sweaborg, in Finland, mentions that, just as he was about to embark, a boat landed, which was manned from the fort, and laden with a species of champignon, which the crew had been sent to collect. They appeared of that description called toads' cups, and which in England are considered as rank poison; yet they said they picked and eat them without ever having experienced a single instance of any ill effects. What were they? — *Id.*

Beans or Peas imported from foreign Parts are always worm-eaten, whereas those grown and used in the same country are free from worm. (*New York Newspaper.*) What can be the reason of this? — *A. R. August 6.*

Temperature at Petersburg.—The greatest degree of heat is 27°, and greatest cold 33°, Reaum. How are cucumbers, lettuces, melons, &c., brought to perfection in the winter there? We may learn much from Russian gardeners. — *Rusticus in Urbe.*

Siberian Rice.—In Russia a kind of rice is used which grows in Siberia, and is more succulent than that of America. It may be useful, and I am desirous of enquiring about it. — *Rusticus in Urbe.*

THE
GARDENER'S MAGAZINE,
DECEMBER, 1828.

PART I.
ORIGINAL CORRESPONDENCE.

ART. I. *Outlines of Horticultural Chemistry: — Vegetable Physiology.* By G. W. JOHNSON, Esq., of Great Totham, Essex.

(Continued from p. 323.)

IMMEDIATELY beneath the bark is situated *the wood*, which forms the chief bulk of trees and shrubs. It is formed of concentric layers, one at least of which is added annually. These layers are formed of a tissue of longitudinal fibres, resembling network, the interstices of which are filled up with soluble matter, differing in each vegetable genus, but closely resembling its parenchyma. The layer immediately in contact with the bark, is the softest and palest in colour, and thence is called *the alburnum*. It is in this that the vessels which convey the sap from the roots to the leaves are chiefly situated. This layer is annually renewed, that of the previous year becoming more complete wood. Although the chief part of the sap-vessels, as just observed, is situated in the alburnum, yet others, though more scanty, are dispersed through the whole of the wood. Wherever situated, they extend from the extremity of the minutest root to the leaves. The idea that the annular layer of wood is rendered more dense and firm by severe winters, is denied by reason, and demonstrated to be false by actual observation. The layers are thickest on those sides of a tree where the largest branches occur, and are, throughout, of greater size in such years as afford the most genial period to vegetation.

In the centre of the wood is situated the *medulla* or *pith*. It is a soft, cellular, membranous substance, juicy when young, and extending from the ends of the roots to the extremities of the branches. In the first stages of vegetation, it occupies but a small space: it gradually dilates; and, in shoots of a year old, and in young trees, it is of considerable diameter; as their age increases, it gradually diminishes, and at length becomes totally extinct, its place being occupied by perfect wood. Its functions are little understood. It appears to be connected with the production of young shoots; for, as soon as it becomes extinct in a branch, that member loses, in a great degree, the power of producing them; that power, apparently, being transferred to those younger branches that still retain their pith in perfection.

The stem is by no means an essential part of a plant, since many are destitute of it; to such trees as naturally are gifted with one, it is somewhat injurious to prevent its formation. Standard fruit trees, under similar circumstances of soil, season, and culture, generally produce finer-flavoured fruit than either dwarf standards or espaliers. This fact appears to be accounted for by the discoveries of the indefatigable Knight, which evince that plants, during the latter part of the summer, are employed in preparing nourishment for the production of the foliage and blossom in the succeeding spring; this nourishment is perfected and deposited in the alburnum, and mixes with the sap during its ascent in that season. Of a consequence it is found to increase in density proportionate to the height at which it is extracted.

The Leaves are highly vascular organs, in which are performed some of the most important functions of a plant. They are very general, but not absolutely necessary, organs, since the branches sometimes perform their offices; such plants, however, as naturally possess them, are destroyed, or greatly injured, by being deprived of them. The duration of a leaf is, in general, but for a year, though in some trees, &c., they survive for twice or thrice that period. These organs are, in general, of a green colour. Light seems to have a powerful influence in causing this; since, if kept in the dark, they become of a pale yellow, or even white hue, unless uncombined hydrogen is present, in which case they retain their verdure, though light is absent. Hence their etiolation would seem to arise from being unable to obtain, under ordinary circumstances, this gas, except when light is present. Now, the only source from which they can obtain hydrogen, is by decomposing water; and how light assists in the decomposition may, perhaps, be explained by the disoxygenising power with which it

is gifted. The violet rays of the spectrum have this power in the greatest degree; and Sennebier has ascertained by experiment, that those rays have the greatest influence in producing the green colour of plants. When leaves are of any other hue than green, they are said to be *coloured*. This variegation is often considered to be a symptom either of tenderness or debility; and it is certain, when the leaves of a plant become generally white, that that individual is seldom long-lived. Mr. Knight, however, has demonstrated that variegation is not a certain indication of a deficiency of hardihood.

The functions of the leaves appear to be a combination of those of the lungs and stomach of animals; they not only modify the food brought to them from the roots, so as to fit it for increasing the size of the parent plant, but they also absorb nourishment from the atmosphere. The sap, after elaboration in these organs, differs in every plant; though, as far as experiments have been tried, it appears to be nearly the same in all vegetables when it first arrives to them. The power of a leaf to generate sap, is in proportion to its area of surface, exposure to the light, and congenial situation.

Leaves throw off a very considerable quantity of water. Dr. Hales found that a cabbage emitted daily nearly half its weight of moisture, and a sunflower three feet high perspired in the same time 1 lb. 14 oz. But of all the plants of which the diurnal perspiration has been ascertained, the Cornelian Cherry (*Córnus máscula*) transpires the most, the exhalation amounting to near twice the weight of the plant in twenty-four hours. This aqueous expiration takes place chiefly during the day; is much promoted by heat, and checked by rain or a reduction of temperature.

On the free performance of this function of plants their health is dependent in a very high degree; and I believe that half the epidemics to which they are subject arise from its derangement. The clubbing of the roots of the *Brássica* tribe, I consider, arises entirely from it. In the drought of summer, when the moisture supplied to a cabbage by its root does not any thing near equal the exhalation of its foliage, to supply the deficiency the plant endeavours, by forming a kind of spurious bulbous root, to adapt itself to the contingency; in the same manner that, in dry situations, the fibrous roots of *Phlèum praténse*, *Alopecùrus geniculàtus*, &c., acquire a tuberous form, as bulbous or tuberous rooted plants, it is well known, will exist in a soil so deficient in moisture as to destroy all fibrous-rooted vegetables.

Evergreens transpire less moisture than deciduous plants, which would lead to the expectation that they are more

capable of living in dry situations, which really is in general the case.

Leaves have the power of absorbing moisture as well as of emitting it, which power of absorption they principally enjoy during the night.

During the day leaves also absorb carbonic acid gas, which they decompose, retaining its carbon, and emitting the greatest part of the oxygen that enters into its composition. In the night this operation is in a certain measure reversed, a small quantity of oxygen being absorbed from the atmosphere, and a yet smaller proportion of carbonic acid emitted.

The hints and warnings which these facts suggest to the mind of every reflecting practitioner are numerous. They explain and enforce the necessity of a regular, and by no means as to quantity indiscriminate, supply of water to plants; the importance of shading after their transplanting, and of a free circulation of air, &c.; and the necessity of keeping the leaves as clean, and as free from injury, as possible. The leaves of plants must often be removed, and in some instances this is done with essential benefit, but the horticulturist should constantly keep in mind that with every one that he removes he deprives the plant of a primary organ of its existence. Light, it has been just stated, is the cause of the green colour of plants, but it should be observed that its full power is only beneficial when directed upon their upper surface. This is evidenced by the position they always maintain. If the branches of a tree, trained against a wall or other support, are so moved, when their leaves are completely expanded, that the under side of the foliage is most exposed to the light, they are always found to regain their natural position in a day or two. If the experiment is often repeated on the same individual, the leaves to the last continue to revert, but become gradually weaker in the effort, partially decay, and their epidermis peels off. Succulent leaves are particularly sensible of light, but those of pinnated leguminous plants are still more so.

(*To be continued.*)

ART. II. *A descriptive Sketch of the Cucumber, Melon, and other Forcing-Pits, generally in Use in Welbeck Garden, Nottinghamshire.* By Mr. HENRY THOMPSON, Under-Gardener in the Forcing Department.

Sir,

AGREEABLY to the direction of Mr. Thompson, I send you a plan and sections of the forcing-pits in use here for general purposes. You will perceive that there is a saving of materials

and labour in the erection, by substituting stone lintels, in place of "M'Phail's pigeonholes," to the north and south walls which support the roof; and the suspended insulated position of the pits, admits a circulation of warm air, both under and all round the pit of each light, whereby a greater degree of surface temperature is obtained in the absence of solar rays, in the early forcing season.

Fig. 118. The ground-plan. *a a a*, the open-work end, and the support for the north and south lintels; *b b b*, bricks on edge, to support the bottom of the pits, and the surface hot air flues round each pit.

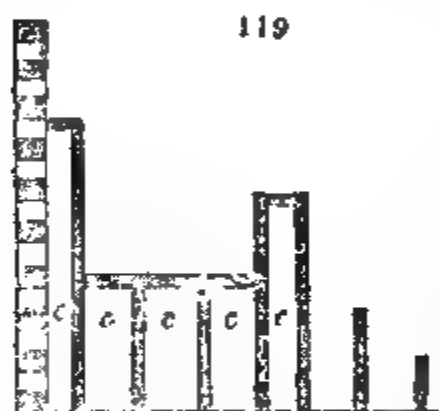
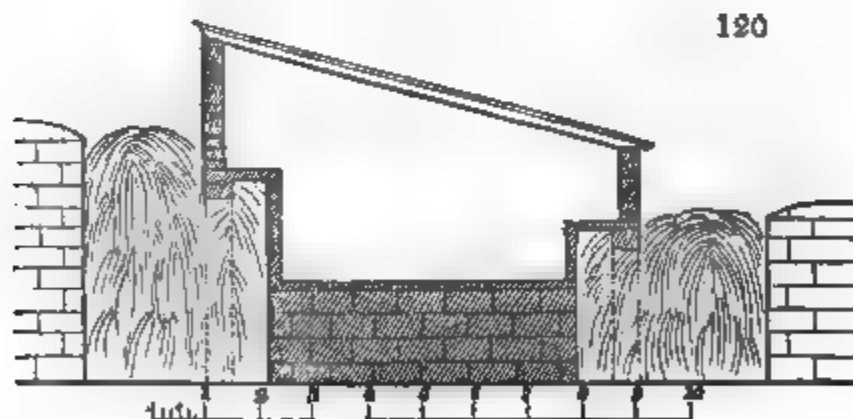


Fig. 119. The longitudinal section. *c c c c c*, hot air flues, round and under the bottom of the pit, which are covered with a single tile. When the bottom of the pit is laid, the brick on edge is continued up to the convenient height for the surface hot air flues, which are also covered with a single tile, laid the reverse way to those at the bottom of the pit.

Fig. 120. The transverse section showing the pits, and position of the lintels, which admits the fermentative body of manure to act under the north and south flues.



The internal part of the pits is covered all over with a thin coat of hair-mortar, made rough by finishing it with a wood float and brush; and the tiles used here are the flat draining ones, without knobs, which are free of the excise duty.

The pits here vary in width, from 5 ft. 8 in. to 6 ft. 10 in. Some of the wide ones have no transverse surface flues; and in these pine crowns and suckers are rooted in the summer months, and an abundant supply of asparagus and sea-kale is obtained in the winter. In early forcing, Mr. Thompson adopts the practice of supporting the vines of cucumbers on a neat wood trellis, or on coarse wickerwork.

I am, Sir, &c.

Welbeck Garden, Sept. 17. 1828.

HENRY THOMPSON.

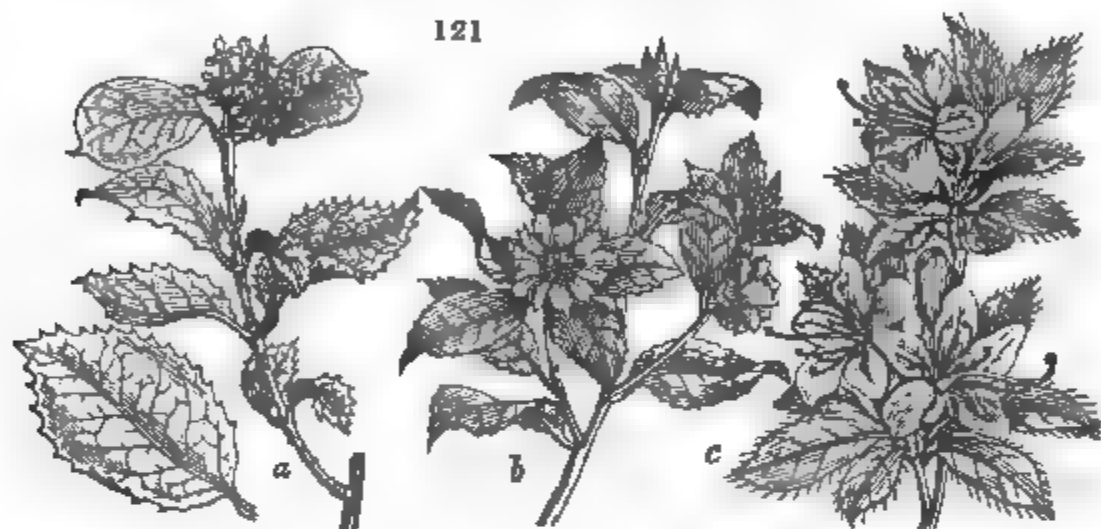
ART. III. *On the Cultivation of Tea in China.*
By Mr. MAIN.

Sir,

As some account of the tea plant may be interesting to many of your young readers, I take the liberty to send you the following, thinking it not unsuitable for a place in your columns:—

This celebrated plant is indigenous to the empire of China, and is not less regarded as a principal in their *hortus dietetica*, than for its value as a means of national wealth. Among the natives (even from the times of Confucius, it is said) it has been immemorably used, not only as a most pleasant and invigorating beverage, but as a medicinal condiment, peculiarly salutary to the human constitution. It has been the theme of their poets, the idol of their husbandmen, and the highest favourite of the emperor and his government. A particular tract of the empire is called the tea country, viz. Tok-yen, Ho-ping, An-koy, &c., situated between the thirtieth and thirty-third degrees of north latitude. Tea is not generally cultivated over the empire, the northern parts being too cold, and the southern parts, perhaps, being too warm. There are but few plantations near Canton, and they of no great extent. The trees are planted about four or five feet asunder, and the ground between is kept always very clean and free from weeds; they are not allowed to grow higher than is convenient for men, women, and children to pick the leaves. Repeated gathering, from one to four times in the course of each year, according to the age of the plants, gives the whole a stunted appearance. All the different kinds of tea named in the invoices, or in the shops of merchants, are produced from the same kind or variety of the plant; it is only the difference in the times of gathering and manner of curing which causes the difference in appearance, qualities, and value. The leaves

which are gathered earliest in the spring make the strongest and most valuable tea, such as pekoe, souchong, &c.; and the latest gatherings are inferior, and are called congou, bohea, &c. Green or hyson can be made of any of the gatherings, only by a different mode of drying. There is an unctuous quality in the leaves, which is almost all extracted in the process of drying. Small proportions of leaves of other plants are sometimes added, but care is taken that it be not detected, as this is considered a deterioration: these are the leaves of the *O'lea fragrans* (fig. 121. *a*), and sometimes those of the *San-cha-yu*



(*Camellia sasanqua*, *b*); and, in the sort called pekoe, small silvery leaves may be observed, which appear to be those of the *To-kune* (*Azalea indica*, *c*); all, however, perfectly harmless, though they have subjected several English dealers to undeserved prosecution. The Chinese, however, deny that any of the latter leaves are ever intermixed.

The first gathering of the leaves begins about the middle of April, and continues to the end of May; the second from midsummer to the end of July; the last during the months of August and September. When the leaves are gathered, they are put into wide shallow baskets, placed on shelves in the air, or wind, or mild sunshine, from morning till noon; then, on a flat cast-iron pan, over a charcoal stove, ten or twelve ounces of the leaves are thrown at a time, stirred quickly with a short hand-broom twice or thrice, and then brushed off again into the baskets, in which they are equally and carefully rubbed between men's hands to roll them; after which, they are again put into the pan in larger quantities, over a slower fire, to be dried a second time. When fired enough, the tea is laid on tables, to be drawn, or picked over, putting aside all the unsightly and imperfectly dried leaves, in order that the sample may be more even and marketable. To make singlo or hyson, the first two gatherings are chosen, and, as

soon as picked from the trees, are put into the pan; next rolled, and spread thin, to separate the leaves, which adhere to each other; again well dried, spread, sifted, picked, and fired two or three times more (especially if it is damp weather), before it is in a marketable state.

There are many names given to tea after it is manufactured, according to the time of gathering, the name of the place, quality of the land on which it grows, or the age of the trees. Rich land on the hills yields superior tea to that in the valleys, and leaves from trees only three years' old are more highly esteemed than the leaves of older trees.

Many frauds are committed in the tea trade, by improper intermixtures of old or damaged sorts with new, in order to sell the whole at a good price. To prevent such impositions, the East India Company keep an inspector, who resides at Canton during the buying season, and whose duty it is to examine the chests, which must be all opened by the sellers for this purpose.

We have had for many years two sorts of the tea plant in our gardens. Modern botanists have abolished the genus *Thèa*, and placed it under the *Caméllia* genus. It is curious that, without any knowledge of the sexual system, the Chinese have done the same: *cha*, or *tcha*, is their name of tea, and *tcha faa* (tea flower) that of *Caméllia*. But our botanists have overlooked one thing, that is, they have put them down as species, whereas one only, the *Bohèa*, may be designated a species, and the *viridis* a variety only. It is, indeed, a question, whether even the Chinese themselves know the original kind; because the best varieties, obtained from long experience and cultivation, are called by them *the true*; and the wild sort, found on the mountains of Ho-nan, is called the *tchow tcha*, or bastard tea.

It has been long an object with our politicians at home and abroad, to introduce the cultivation of tea into some of our foreign possessions, lying in the same degree of latitude with China. Bengal, or some of its dependencies northward, or even the hills in the interior of that kingdom, may, no doubt, be found favourable to its growth. With this view it was that Lord Macartney and Sir George Staunton procured a few plants, of the cultivated sort, from the tea country which they passed through on their over-land journey from Peking to Canton in 1793, which were sent to Bengal, and which no doubt received the attention of the local government at the time. But, although there may be no doubt that the plant would succeed well in that and many other places in the British dominions, yet the question is, could it be manufactured

and supplied at as cheap a rate as we can buy it of the Chinese? If such a thing could be accomplished, it would be one of the greatest colonial improvements; amending the condition of the lower classes of that populous country, adding greatly to the revenue and trade of the East India Company, as well as to the wealth and power of the British nation. Part of the United States and South America, and much of the south of Europe, are in climates favourable for the growth of tea; but, in any of these situations, the cost of its manufacture would greatly exceed its value.

The Chinese drink their tea without either milk or sugar; they partake of it plentifully at their meals, and very frequently in the course of the day. One mode of using it, amongst the higher ranks, is formed by grating into the cup balls made of the most valuable leaves, cemented together by some kind of tasteless gum.

I am, Sir, yours, &c.

Chelsea, Feb. 20. 1827.

J. MAIN.

ART. IV. *Some Experiments on the Value of Salt, as a Manure.*
By Mr. WILLIAM M'MURTRIE.

Sir,

IN compliance with your desire (Vol. II. p. 6.), I this season tried salt upon one half of my carrot ground. It having been previously thrown up in ridges, I sowed the salt at the rate of a cubic inch to a square yard: I then levelled down the ridges, and sowed the carrot seed immediately. The part that was salted did not differ at all in appearance from that which was not, with regard to the growth of the tops. When the crop was taken up, I could not perceive that there was the slightest difference in the two parts; therefore, it would appear that that quantity of salt to a square yard does neither good nor harm. I sowed the same proportion upon the surface of my shallot ground, after the shallots were above the ground, with the idea that it would prevent that rot at the roots which they are so subject to; but I could not perceive that it had any effect whatever. In the month of March, I also sowed four square yards of grass with salt, in the pleasure-ground, to see what effect the different proportions would have on its growth. In the first yard I strewed one cubic inch over it; in the second, two; in the third three; and, in the fourth, four cubic inches. In the first and second yards, the salt had no perceptible effect; in the third yard, it rather retarded the growth

for a short time; but the effect the quantity had upon the fourth yard was very plain indeed, turning it quite yellow in about ten days after it was put on. It was not sufficiently powerful to kill either the moss or grass, which continued in that sickly state till the autumn, when it recovered; and at this moment I cannot perceive the slightest difference in the appearance of all the four yards. From the above experiments, which are certainly on a very limited scale, it would not become me to give a decisive judgment on the merits of salt as a manure, or stimulant; yet they are sufficient, with what I hear generally, to give me but an indifferent opinion of its usefulness, as applied to the above objects. I have used it successfully, put on in a large quantity, in destroying weeds on approach roads; but it must be done annually, to have the effect of keeping such constantly clean. I would not recommend its being laid on garden walks for that purpose, as I lately witnessed the box edgings of a garden completely destroyed by it. In paved courts, or stable yards, it might be used successfully in destroying the grass, weeds, &c.; and, being now so cheap an article, it would be a considerable saving, compared with hand-weeding. In short, I have a higher opinion of its destructive qualities than its vivifying properties, at least as far as I have seen it applied. I am, Sir, &c.

W. M'MURTRIE.

Shugborough Gardens, Nov. 20. 1827.

ART. V. *A brief Essay on the Atmosphere, showing the Economy of Nature, in the Distribution of it, for the Support of Animal and Vegetable Life.* By Mr. P. MASEY, Jun.

ATMOSPHERIC air is composed of gaseous fluids, in the proportion (in round numbers) of 21 parts oxygen, 78 parts nitrogen, and 1 part carbon, hydrogen, and carburetted hydrogen, in every 100 measures.

Oxygen is the vivifying, or vital principle; it has the natural property of accelerating the circulation of the animal fluids, and must be regarded as absolutely necessary for the support of life, as this cannot exist without it. Yet oxygen must only be inhaled in the proportion nature has provided; for, if the proportion of oxygen and nitrogen were reversed in the air, the circulation of the fluids would be so stimulated, as to be totally destroyed by over-excitement. If a person were to breathe pure oxygen but a few minutes, the impetus to the pulse would double its action, and destroy that life which, in

the proportion nature has assigned, it is meant to promote. I have inhaled it, and given it to others, in the proportion of 36 to 40 parts in 100, and am fully convinced of its stimulating principle. Its effects are analogous to that which is occasioned by drinking fermented liquors, but, unlike intoxication, it is not followed by any debility. The sensations are pleasant, the body feels lighter, and seems to possess an increased muscular power, which is often attempted to be exercised in some ludicrous manner. When atmospheric air is inhaled by animals, it undergoes a decomposition in the lungs; the oxygen is retained to stimulate the fluids, and impart to the blood its impetus, colour, and heat. The blood, in its circulation, is evolved and distributed over the whole body, producing that uniform temperature we have so much occasion to admire; for, in the severest winter, the internal temperature of the body is scarcely a degree lower than in the warmest summer. In the summer nature throws off the excess by perspiration.

Whilst the lungs, in their decomposition of the atmosphere, retain the oxygen which is wanted for the support of life, they throw off, at every expiration, the greater part of the nitrogen which will not support it; yet, mixed in the proportion nature has assigned, the latter has the effect of neutralising the properties of the former, and by its union so diluting and modifying it as to prevent inspiration being over-excited. The interval there is between every respiration is designed to allow time for the nitrogen which the lungs discharge to ascend above the head, that the same may not be repeatedly breathed, but that a portion of fresh air should always be taken in. The lungs give effect to this measure, by imparting such a degree of heat as, by making it lighter than atmospheric air, may cause it to ascend with more rapidity.

Of the remaining parts of the atmosphere, the hydrogen and carburetted hydrogen arise from vaults, marshes, stagnant pools, &c. &c., and the carbon from combustion and the animal fluids, from which it is discharged by expiration. These gases are highly destructive to animal life; and, though they only arise in a measure from adventitious circumstances, and form so small a part of the atmosphere, yet, combined with the quantity of nitrogen constantly thrown off by the lungs of animals, they would soon render the air destructive to animal life, were not this effect so admirably counteracted by the Creator, whose infinite comprehension foresaw the tendency of every law it was about to establish, and whose wisdom provided for every contingency that could arise from the amalgamation of properties negative and destructive. The system adopted was by creating in plants also the power of

decomposing the atmosphere, and by making it essential to vegetable life, to receive for its nourishment what is rejected by animals, and is destructive to their nature. It clearly can be demonstrated that plants, on this principle, are as active agents as animals. It is evident, that in them there are a regular inspiration and expiration of atmosphere, which in the circulation of their fluids becomes decomposed. They retain the carbon, hydrogen, carburetted hydrogen, and nitrogen, as absolutely necessary to their support, though destructive to animals, and, by respiration, discharge the oxygen again, retaining so much of the latter as is necessary to stimulate the others, and form the sugar and acids which are found in vegetables. But this is not the only agency of plants in purifying the atmosphere, they have also the property (assisted by solar rays) of decomposing water, the component parts of which are 12 of hydrogen, and 88 of oxygen in every 100 parts of the fluid by weight, and 67 hydrogen and 33 oxygen in every 100 parts by measure. In this decomposition the hydrogen is retained, and, combining with the nitrogen and carbon of the atmosphere and soil, forms the wax, gum, oil, and resin in vegetables; whilst the oxygen, volatilised by the heat of the sun, is given out, by expiration, in the form of oxygen gas. So that, by these several operations (which gardeners, by attending the lectures at a mechanics' institution, would have opportunities of seeing illustrated by experiments), whilst Nature gives nourishment and materials of growth to the vegetable world, she at the same time, by their agency, renovates that vital principle in the atmosphere necessary for the support of animal life; and thus, reciprocally acting on the same principle, they correct and balance the effects of each other, so as to keep up that uniform equilibrium and salubrity of the atmosphere, which, though it is the receptacle of all vapour and volatilised productions, yet is so renovated by this system and so mingled together by its constant circulation and the affinity of the lighter and heavier gases for each other, that it is always found to be sensibly the same with regard to its intimate qualities in every situation.

In contemplating so beautiful a system, the several other agencies of plants in giving it effect, and the order and regularity with which it ever has continued in action, though it must make man see the weakness and imperfections of his own designs, yet, while he feels his insufficiency, he is lost in the fulness of infinite wisdom, which is everywhere employed for his welfare and safety.

I am, Sir, &c.

Bristol, November 30. 1826.

P. MASEY, Jun.

ART. VI. *Reading necessary and advantageous to Gardeners.*
By Mr. HOUSMAN.

Sir,

THE science of gardening, or that part of natural history which treats on the uses, propagation, and culture of plants, is in our day become so fashionable a pursuit among the nobility and gentry, and so very many provincial horticultural societies have been formed and are springing up in various parts of the kingdom, from whose *Transactions*, and the many publications on botany, horticulture, chemistry, &c., they are acquiring a knowledge of raising and maturing most kinds of fruits and vegetables, that, although very many of my brother gardeners are most ready to give out their anathemas on all reading and writing gardeners and to depreciate the value of books, I believe the day is near at hand when something more will be required of the practical gardener than a knowledge of sowing, planting, pruning, and mowing, wrapping himself up in a blue apron, and carrying a crooked knife, &c. The Honourable President of the London Horticultural Society says he had a gardener who was a simple day-labourer, and could not read a black letter, and that the said gardener could grow the pine in a high solar heat, on a stage near the glass, in the manner of a green-house plant. However true this may be, I presume the above-mentioned simple labourer would have grown them no worse had he been possessed of the knowledge of the Council of the Horticultural Society: and I beg of my dear brothers not to entertain any fear for the safety of the temple; we shall never pull it over our heads by reading the two publications which every gardener should have, and an inclination to read them, I mean the *Encyclopædia of Gardening* and the *Gardener's Magazine*. Nor let us be dismayed at the knowledge ladies and gentlemen may acquire in our profession; for the more they are enamoured with our goddess, the surer will the building stand: and let it not be said, that, while others are improving their minds through various praiseworthy mechanics' institutions, we alone are idle; we have our garden libraries, and, when we are no more, the names of a Mackay, a Bannerman, and a Shephard will long be esteemed. The mechanic studies the arts and manufactures; we study nature, and learn to look through nature up to nature's God. No unhealthful experiments nor tedious enquiries are to be made, but pleasures accompany our pursuits, and crown us with health and satisfaction. It is true that we learn the routine work of a garden by a long series of practice, and no doubt many have grown good crops without studying

the theory of gardening at all; but will any one say they should have produced worse crops by having, while apprentices and journeymen, read books on botany, chemistry, horticulture, &c.? Where is the gardener who has observed the beautiful structure of the *Mimosa sensitiva*, *Hedysarum gyrans*, *Dionæa*, *Nepenthes*, *Vallisneria*, &c., who has not been led to admire the wisdom of God in their nice sensation and curious structures? By reading we shall be made acquainted with things we never can learn from practice. The smith can weld his iron, the plumber can cast his lead, nor is it necessary they should know how or whence they have originated. Not so with us; we ought to know that plants, like animals, are very compound, organised, living beings, and supported by air and food, endowed with life, and subject to death, as well as animals. Every gardener ought to know that the plant he cultivates derives nourishment by inhaling and absorbent vessels; that it extracts and assimilates to its own substance those parts that are nutritious, and rejects the rest; that this nourishment is first absorbed by the radicle, or annual fibrous root, and that it is carried through the stem of the plant, if a tree, in a set of central vessels; that from these vessels it is carried into the leaves, and that in these most essential organs it undergoes a process which few gardeners can learn, without reading; that, after the sap has undergone this process, it is returned through another set of vessels, and deposits substances which are annually converted into layers of wood and bark. Nor is this all; for, on its return, it feeds the buds which contain the leaves and fruit in embryo, which are to vegetate and mature in the ensuing season. Hence we perceive the absurdity of stripping the leaves from shoots which we expect to bear fruit the following season. Though the vegetable economy is different in herbaceous plants, there the uses of the leaf are just as great. We ought to know there is a strict affinity between the crowns of herbaceous plants, such as strawberries, asparagus, bulbous plants, &c., and the leaf bud of trees; and hence the folly of mowing down strawberries, cutting down asparagus early in autumn, throwing by bulbs immediately after flowering, &c., and depriving them from generating sap to nourish them in the early part of the next season; hence, also, the bad practice of digging between the beds of asparagus and lines of strawberries, and by one blow depriving them of the fluid they have absorbed during the whole summer. These, and many other truths, may be partly learned by long practice; but, where the apprenticed gardener has access to books, he may well understand them and many other facts before he is fifteen years of age.

You, Sir, perhaps are aware that many gardeners show a determined opposition to all their fellows who read and write on their profession. I myself have been abused by some for even recommending the perusal of your Encyclopædia and this Magazine; and let me beg of those brothers who, with their pot logic, are continually stigmatising unlearned but aspiring fellow-workmen, to come forward and manfully state their objections, in a plain and concise manner, in this useful publication, that we may prove to the whole body of brethren that writing and reading are not only calculated to make us better gardeners, but better servants, husbands, fathers, and members of society; for the more we study the works of our Creator, the more his wisdom will become manifest. Then let us consider the lilies, how they grow; and say,

“Soft roll your incense, herbs, and fruits, and flowers,
In mingled cloud to Him, whose sun exalts,
Whose breath perfumes you, and whose pencil paints.”

I remain, Sir, &c.

September, 1828.

JAMES HOUSMAN.

ART. VII. *Remarks and Observations made during a Visit to the United States of North America, in 1827–28; with a List of Plants, &c.* Abridged from a Communication by Mr. A. GORDON.

To the British gardener who may dream that the United States present any very alluring prospect of encouragement and happiness, Mr. Gordon holds forth no great hope; indeed, he wishes to dispel a delusion which he fears has had, or may have, a too extensive influence at home. On this point he must be a pretty competent judge: he has traversed those states, has had access to the first sources for information, and, with the eye of a gardener and botanist, has closely examined all that has been done in horticulture, as well as all that the present generation seem inclined to do in that science. Affluence and taste, he observes, must precede the adoption of that style of gardening, where a British gardener could only find himself at home, or find room for the display of his art. “In the United States of America this view of the subject is placed beyond a doubt. In the states of New York and Pennsylvania, and in the vicinity of Boston in the state of Massachusetts, gardening is beginning to rear its head. Every one conversant with America is aware that those places have arrived at a considerable degree of refinement, and pre-

sent a faithful miniature of the noble institutions which so highly distinguish the mother country; but, as you penetrate into the interior, refinement gradually diminishes, until you find yourself among those, so far as respects gardening, who not only do not appreciate its pleasures, but are in actual ignorance of many of our most common vegetables."

Among the patrons of gardening the names of Hosack, De Witt, Clinton, and a few others, stand conspicuous; and the establishments of Messrs. Floy, Hogg, Smith and Co., Wilson, &c., New York; that of Prince at Flushing, Long Island; Parmentier, Brooklyn; also, on Long Island, D. and C. Landreth; Carr, at Philadelphia; and a rising establishment of Messrs. Buel and Wilson near Albany; all bear testimony to the patronage the art has received, and is still receiving. But gardening will be retarded in its progress so long as those who can encourage it think that any man who can dig and crop a piece of ground is gardener enough for every other purpose. The general government is favourable to the introduction of foreign plants, which may succeed and be useful; and the foreign consuls are charged to collect seeds, &c., to send home, at the government expense.

"I passed, in my journey of 1200 miles, through the southern states of South Carolina, Georgia, and Alabama, and was struck with the change from civilisation to wild rusticity. In those uncultivated regions, however, there was here and there a spot which arrested attention. In the vicinity of Charlestown, South Carolina, M. Noisette, brother to the nurseryman at Paris, has rather an extensive establishment, chiefly in the culinary line. In the city of Savannah, the garden of Thomas Young, Esq. (Vol. III. p. 212.), assuredly claims superiority over every other in the south. The plan of the garden does great credit to Mr. Wilson of Albany. Here, on the 4th of January, the *Magnolia conspicua* was in flower; the *Laúrus Cámphora*, *Gardènia flórida*, and the *Cítrus* tribe were all flourishing in the open air. Here are several houses also, well filled with exotics, and a new one intended entirely for the *Cáctus* tribe. The highly respectable proprietor is a reader of the *Gardener's Magazine*, and is not more esteemed as a botanical collector than for his amenity as a gentleman. In Augusta, 124 miles from Savannah, Dr. Wray has a little spot, but a most interesting one to a botanist; it contains a small hot-house, and most numerous collection of bulbs, native herbaceous plants, and succulents. He approves highly of the *Gardener's Magazine*, and seems inclined to contribute something to its pages on the subject of American plants. — Fox, Esq. has a good garden, about

five miles from Augusta; and the only other I met with, in a long circuit, was a well-conducted farm belonging to a gentleman, a native of France; and this I more readily notice, because it was here I first saw a live American fence, and this composed entirely of *Rosa multiflora*. Neither at Milledgeville nor Macon, is there a garden worth notice. Colonel Crowell is preparing a garden for the culture of the vine, and for making experiments on the sugar-cane, to ascertain whether it will succeed so far north as the 33d degree of latitude. The natural and local advantages of those countries are greatly neglected by the inhabitants; for such is the favourableness of soil and climate, that even the exertions of the sluggard would be rewarded.

“ If America is destitute of the objects of artificial gardening, she is rich in natural ones. Her Flora may compare with that of any other quarter of the world. Mr. Goldie’s paper (Vol. II. p. 129.) on American plants is interesting, but there are several beautiful natives which have escaped him. A few of these are subjoined. The soil on which they are naturally found, is sand and decayed vegetable matter; a free sandy loam, mixed with vegetable mould and a portion of sand, is a proper artificial compost; a shady situation is also necessary.

Acer rubrum, alluv. s.
Acer dasycarpum, alluv. s.
Acer saccharinum, alluv. s.
Acer nigrum, alluv. s.
Acer Negundo, alluv. s.
Æsculus Pavia, var. s.
Æsculus discolor, var. s.
Æsculus flava, var. s.
Æsculus macrostachya, alluv. s.
Andrōmeda angustifolia, marshy s.
Andrōmeda nītida, marshy s.
Andrōmeda axillāris, marshy s.
Andrōmeda acumināta, marshy s.
Andrōmeda floribūnda, marshy s.
Andrōmeda rīgida, hills.
Andrōmeda ferrugīnea, hills.
Andrōmeda frondōsa, hills.
Andrōmeda arbōrea, hills.
Andrōmeda racemōsa, hills.
Quercus Phāllos, hills.
Quercus cinērea, hills.
Quercus virens, alluv. s.
Rhododéndron máximum, alluv. s.
Rhododéndron punctátum, alluv. s.
Rhododéndron catawbiēse, hills.
Vaccínium Myrsinītes, hills.
Vaccínium arbōreum, hills.
Vaccínium stamīneum, hills.
Vaccínium tenéllum, hills.

Vaccínium dumōsum, hills.
Vaccínium frondōsum, alluv. s.
Vaccínium fuscātum, marshy s.
Vaccínium galēzans, alluv. s.
Vaccínium corymbōsum, marshy s.
Azàlea calendulācea, alluv. s.
Azàlea viscōsa, alluv. s.
Azàlea nudiflōra, alluv. s.
Azàlea canēscens, alluv. s.
Azàlea bīcolor, hills.
Azàlea pōntīca, hills.
Bignōnia capreolāta, hills.
Bignōnia radicans, alluv. s.
Calycánthus flōrida, alluv. s.
Catálpa syringifōlia, alluv. s.
Cércis canadēsis, alluv. s.
Cratægus virgīnica, hills.
Cratægus coccīnea, var. s.
Cuprēssus dísticha, var. s.
Cuprēssus thyoides, var. s.
Gelsēmium sempervirens, alluv. s.
Gordōnia lasiánthus, alluv. s.
Halèsia tetráptera, alluv. s.
Halèsia díptera, alluv. s.
Rùbus villosus, alluv. s.
Rùbus cuneifolius, hills.
Rùbus occidentālis, hills.
Rùbus triviālis, var. s.
Vītis rotundifōlia, hills.

<i>Vitis riparia</i> , hills.	<i>Magnolia acuminata</i> , alluv. s.
<i>Vitis cordifolia</i> , alluv. s.	<i>Magnolia tripetala</i> , hills.
<i>Vitis æstivalis</i> , alluv. s.	<i>Magnolia macrophylla</i> , hills.
<i>Vitis Labrusca</i> , alluv. s.	<i>Magnolia cordata</i> , hills.
<i>Hydrangea vulgaris</i> , alluv. s.	<i>Olea americana</i> , alluv. s.
<i>Hydrangea quercifolia</i> , alluv. s.	<i>Prunus caroliniana</i> , alluv. s.
<i>Illicium floridanum</i> , alluv. s.	<i>Prunus virginiana</i> , alluv. s.
<i>Illicium parviflorum</i> , alluv. s.	<i>Prunus hirsuta</i> , alluv. s.
<i>Kalmia latifolia</i> , alluv. s.	<i>Prunus umbellata</i> , alluv. s.
<i>Kalmia angustifolia</i> , alluv. s.	<i>Prunus chicensis</i> , alluv. s.
<i>Kalmia hirsuta</i> , marshy s.	<i>Ulmus americana</i> , marshy s.
<i>Laurus Sassafras</i> , var. s.	<i>Ulmus fulva</i> , alluv. s.
<i>Liriodendron tulipifera</i> , alluv. s.	<i>Ulmus alata</i> , alluv. s.
<i>Lonicera sempervirens</i> , alluv. s.	<i>Yucca gloriosa</i> , hills.
<i>Magnolia grandiflora</i> , hills.	<i>Yucca filamentosa</i> , hills.
<i>Magnolia glauca</i> , alluv. s.	

I am, Sir, &c.

A. GORDON."

ART. VIII. *On Landscape-Gardening, as a Part of the Study and Business of Practical Gardeners.* By a LANDSCAPE-GARDENER.

(Continued from p. 334.)

THEN commenced the arts of peace ; the remembrance of patriarchs, heroes, and benefactors of the human race, was perpetuated by rude hieroglyphics, by the pencil, or the chisel. Human virtues, or supernatural powers, were personated by ideal representations. In these dawnings of art, imagination was employed as an auxiliary of the artist ; proportion was necessarily studied ; beauty of forms and outline was regarded ; and the flowing lines of nature were copied, to decorate plastic, sculptured, or painted compositions.

From the representation of persons, virtues, or imaginary powers, the progress was easy to that of depicting the favourite scenes of champaign nature. In this effort, the artist's execution was guided, and in some degree directed, by the effect which might flow from his pencil in the drawing and finishing of his picture. He soon found that he could not make a pleasing piece, unless he had a strongly marked foreground, an interesting middle distance, and a harmonious off-scape. He felt, too, that his colours required to be properly blended, and his lights and shadows properly balanced : the sky must be reflected by a mirror of water, to double his objects, and give a harmonious tone to the piece. He also found that purely natural scenes were easier imitated than those which had received any impressions from art ; because the play of

vegetation, or of any other natural figures, formed by the action of fluids, does not require that care in either drawing or colouring, as do the forms of art. Hence arose, at a very early period of the art of landscape-painting, a preference for such kind of scenery; and hence, many of the most highly valued pictures in this style, are little else than rude forest views, with a reposing shepherd, his shaggy dog, and a few scattered sheep.

Thus arose a kind of fashion in painting either real or ideal landscapes. Those scenes only were copied which were disposed agreeably to the previously fixed rules of composition. Hence the palace or castle, with its lake in the middle distance, relieved by far off hills or clouds, were shown to great advantage when contrasted with the ivy-covered ruin or majestic tree, surrounded by the rudest plants, on the foreground.

Whether it was the facility of copying such scenes with such admirable effect, which, in time, became a standard for pictorial skill, and also fixed the principles of taste in landscape, is perhaps questionable; certain it is, however, that such a style of painting kept it as far as possible from all exertions to form real landscape. The painter and the gardener were utter strangers! The business of the latter was to sweep away and banish the very plants, and roughness, and irregularities which the former so much admired, and which he considered indispensable in a picture. The painter, it is true, would sometimes portray a palace after it had been embellished by the statuary and the gardener: but this must have been an irksome task; it cramped his hand, it confined his ideas, and, probably, on this account, was never executed but when imposed as a duty.

Whatever may have been the origin of those perceptions which are now moulded into principles universally received as those of fine taste, certain it is, that out of those dawnings of genius they took their rise. The favourite scene of a painter, when seen in reality, must please every spectator, whether he is able to account for this pleasure or not; and this goes far to prove that the principles which guide the artist, are not arbitrary creatures of his own conceit or education, or the offspring of ease in execution, but inherent in nature itself, and exemplified in associations which particularly please the eye, and gratify the mind.

As true taste is founded in nature, it is easy to discover defects in compositions where the exuberance of fancy has carried away the artist from the reality or modesty of nature. Errors of this kind may even be seen in the works of the great masters: unnatural lights, trees, positions, and associations.

Truth is thus, and not unfrequently, sacrificed to produce effect; but this, as it is excess of design, is unworthy of the art, as of the artist.

Many real scenes, which are extremely pleasing to the spectator, are neglected by the painter, because of their too great smoothness; and, though this is one of the attributes of beauty, it is unsuitable for the canvass, requiring broad masses of colour, which are always disagreeably insipid in a picture, if not checkered by shadows.

Scenes which have particularly attracted the attention of painters, have been divided, by the virtuosi, into three distinct characters, viz. the beautiful, the picturesque, and the sublime.

The first is one where general smoothness, freshness, and mild variety of features prevail; where luxuriant vegetation, in all its softest forms and tints, is reflected from the clear expanse of placid water; where the surface of the ground undulates into easy slopes and gentle swells; where the smooth and verdant turf spreads into open lawns, or, retiring, winds out of view between, and behind, the foremost ranks of stately trees; where the distant hills are seen rising, in graceful forms, over the thickened woods of the middle distance, and appear to embrace and protect the favoured spot, enlivened by the gambols of deer, and of other herds and flocks; while the azure sky is decked with light and fleecy clouds, and the calm and balmy air is buoyant with solar heat, whether at early dawn, noon-tide hour, or evening grey. Such a scene is improved by the cheerful villa, the airy bridge, the neat cottage, or farmer's homestead, surrounded by their inhabitants and cattle.

The second character is given to a scene which differs from the first, in its rugged uneven surface; the herbage rank and checkered by low tufts and bushes; the ground here and there broken into abrupt brows of naked soil, showing the various coloured strata, overhung by dangling growths; the herbs and trees, instead of bearing the verdure of spring, or elegance of youthful vigour, are partly decayed; clothed with hoary lichen, and the tints of autumn; some of the aged trees stripped of their honours, their branches fracted by storms, or strewed prostrate on the earth. Instead of the placid lake, an irregularly winding river, gliding quickly between bold and broken banks, skirted by unequal groups of trees, bushes, and rampant herbs of aquatic growth. The declivous slopes towards the river, are variously interrupted by deep gullies. Jutting weather-stained crags, of different heights and positions, obstruct the river's course, or shoot upwards from among encircling trees. The surrounding hills here rise into irregular cliffs, and seem to overhang the vale below. Heavy masses of

shapeless clouds float among the pointed rocks, through which the toiling sunbeams descend in portentous streams. On one eminence stands the ruined church or castle; below, the broken bridge; to the right are seen the gipsy's ragged train of laden asses and shaggy dogs, entering a dark recess of a gloomy wood; to the left appear a few scattered huts, with their squalid inhabitants: nor is composure here; the trees are bending, and the thickest woods seem vexed by the passing gale.

The character of the last and most imposing kind of scenery is the sublime. In this all the greater works of nature are combined. The mighty outstretched ocean; mountains covered with never melted snow, and fracted into deep and dreary chasms; towering cliffs of sable granite or basaltes, stratum upon stratum, piled immense; impetuous torrents fall in cataracts, from steep to steep; aloft, among the shelfy rocks, the stunted pine, or scathed oak, are, lonely, seen; below, a dark abyss, obscured by over-rising clouds of chilling spray. No trace of human foot or human home is here; and nought but savage life, in beasts or birds of prey, appears.

Such scenes of savage grandeur awaken feelings of the most intense emotion; and, if contemplated under the visit of a thunder-storm, impress the mind with the most solemn awe.

These are what may be called the types of the different characters given to real landscape; and though they are all perfectly distinct in nature, it more frequently happens that scenery is of a mixed character, and, as such, has been copied by the painter, and imitated by the gardener. From them, and their combinations, all our ideas on the subject are drawn; and, on them, all the rules of practice in our imitations ought to be founded.

The materials of the landscape-gardener, namely, ground, wood, and water, may be treated of separately; but, before entering on this part of the subject, it may be necessary to give a brief sketch of the history of the art, as it has descended to our own times.

Descriptions of ancient gardens occupy but a very small portion of ancient history. We learn they existed in all ages; but of the style of them we know but little, till we arrive at accounts given of those belonging to the emperors and opulent citizens of Rome. Around that emporium of arts and science, a style of gardening originated, which afterwards was designated the Italian. The climate of Italy required light airy buildings, which received much architectural ornament. Their domestic elegance was carried beyond the bounds of their apartments. Colonnades, verandas, corridors, &c., necessarily attached to every house, were extended around; and,

where the architect left off, the gardener, assisted by the sculptor, began. Consequently, every thing done by way of embellishment near the house, partook of its regularity. Hence the straight avenue, the polygonal arbour, ranks of orange and myrtle trees, quadrangular flower-plots, and, lest any plant should present its natural form, it was reduced to the desired shape by the hedge-shears. The gardener vied with the sculptor and architect, in his fanciful imitations of their art. In this case, and at this time, art completely triumphed over nature; and it is somewhat surprising, that, during this period, while the gardener was driving nature from his parterre, the painter was busy in the forest, studying her wildest scenes.

This style was the fashion for ages, and was adopted all over Europe. Few seats of princes, nobles, or chieftains, but were embellished in this manner; more, perhaps, from necessity, than as a matter of taste. In those days, "every man's house was his castle;" and it could be only on the ramparts of a fortified house, that any kind of ornamental gardening could be enjoyed: hence, the public malls of cities are still called boulevards, i. e. bulwarks.

When Italian gardening was introduced into Holland, which was always famous for its horticultural improvements, the right-lined canals of the latter, suited admirably with the regular style of the former country. Indeed, in topiary work, clipped plants and ranks of trees, terraces and stairs, levels and slopes of naked turf, were carried to greater extremes by the Dutch and northern French, than such things had ever been by the Italians; but with a great drawback, the want of the splendid sculpture of Italy.

The British palaces and country seats were also enriched by this style of gardening. From Henry VIII. down to William III., it was in high reputation. Remains of such gardens are still to be seen; but soon afterwards, as the state of society improved, walls, moats, and other expedients for domestic security, were no longer necessary; the barrier, which had hitherto separated the fields from the garden, was cleared away. The formality of pleasure-gardens was destroyed along with the boundaries which had previously imposed their character. The front terrace was no longer the only place whence a prospect could be seen; extensive views were required on all sides. Thus, incidental combinations were presented to the eye; the painter's ideas of landscape were appreciated, admired, and at last imitated.

In the transition from the old to the new system, there was hardly any pause; a needful moderation had little or no influ-

ence among improvers; and though the principles of true taste were more precisely defined, and better understood, yet many proceeded with a precipitance which is now, perhaps, to be regretted. Many a valuable and appropriate feature of artificial landscape, as connected with architecture, was sacrificed to the new ideas which then came into fashion.

True taste is founded on nature, and must, therefore, be the guide of the artist. The painter studied her finest accidental effects; and it is only to be wondered at, that the gardener so long neglected the same means for improving his practice. At last, however, it was discovered that the principles of painting and ornamental gardening were the same, as far as the difference in the execution would admit. One of the principal actors in this revolution was a painter by profession. He did all he could with the means of the planter, to produce picturesque effect; and even went so far as to plant dead trees! He was succeeded by others, who were less imbued with painters' feelings; and, ignorant of picturesque effect, confined themselves to produce simple beauty only. Down came terraces, avenues, and every obstruction, however useful or interesting, which prevented setting the mansion in the middle of a smooth lawn. Knolls were removed to fill up valleys; rough places of the surface were levelled; the crooked lines of nature were made straight, and that which was artificially straight, was thrown into regularly sweeping outline. The irregular skirtings of woods were rounded; and groups of trees, in threes, or fives, or sevens, were dotted over the open lawns. This extreme fondness for general smoothness, especially in the management of lawn and water, produced but a tame and insipid landscape, offensive to the painter, and drew, from the lovers of good taste, the keenest sarcasm. These faults of the ground workmen, and the judicious criticism of the virtuosi, having been published, arrested attention; and the result has been, a reform and improvement in the ideas of practitioners, which will be adverted to in the sequel.

Of Ground. — What the canvass is to the painter, the surface of the ground is to the gardener. Both are previously prepared to the artist's hand. It is not in the power of the workman to alter much its natural character. His improvements must be additions only. If ground be what is called a dead flat, it can only be improved by judiciously varying it by planting in such masses as will accord with its extent, with the magnitude of the mansion to which it belongs, or the scenery of which it is a part. Shifting portions of the surface to give a little undulation at certain points, or excavations for receiving water, are allowable; but such doings are not easy,

and unless a very striking and respectable feature can be gained, nothing of the kind should be attempted. Interest and variety can most easily be given, by planting trees of different altitudes, tints, &c.

Beautiful ground, as has already been noticed, is that which is varied by gentle swells and graceful slopes: here dipping into easy hollows, and there rising in gradual ascents of moderate height. The varied outlines of the undulations, the different shadows and tints of mild colouring, thrown across the view by the different inequalities, form of themselves a pleasing picture. On such a field of action, the business of the improver is easy. The character of the ground fixes the character of the scenery which should be created. It marks the places, the extent, the margins and sinuosities of the additional features which may be introduced. If water is, or can be brought, upon such a spot, the whole will admit of the highest enrichment under the direction of taste. It remains with the planter either to give unmixed beauty by the position, the number, and the forms of his objects, if confined for space; or in addition to beauty give the air of grandeur, by the broad masses and wide distances of his principal features, if the ground be extensive.

The next description of ground is that where the surface is broken into irregular parts: deep valleys, abrupt elevations, precipitate declivities, studded with insulated rocks, natural woods, dingles, dells. When such ground is to be improved, no attempt should be made to alter the character; it is impossible. After every thing is done for comfort and convenience, the next endeavours should be to hide deformities, clear away unsuitable objects, and bring all the most striking circumstances into view by suitable accompaniments. This can only be done by planting such kinds of trees as will symbolise with the character of the ground. Water usually forms a part of such scenery, either as a river or streamlet. The former may be exposed, or here and there concealed to add to its effect, but cannot be turned with propriety. The latter may be arrested in its course, expanded into a lake or lakes, and made one of the most expressive ornaments of the composition.

In many cases where the landscape-gardener may be employed, he finds ground of different characters. This is always an advantage; because a variety in general scenery is as desirable as in a single picture. Sometimes these characters may be kept distinct, yet judiciously blended. The principal views are usually disposed with reference to the mansion; and the character of these views, when it is within the option of

the improver, is impressed with reference to the character of the rooms whence they are seen. For instance an avenue should lead to the principal entrance; the windows of a library or study should look to a shady grove of sombre-tinted trees, while those of the breakfast and drawing rooms should be cheered by the gayest and most interesting scenery; and, if circumstances permit, the shaded windows of the picture gallery should only look on objects purely picturesque.

These are the ideas which an improver would entertain in composing the views from the house, as far as the character of the ground will allow; and, if within the bounds of the park the ground partakes of much diversity and presents peculiar features, it should only receive additions which will accord therewith. As much care should be taken in the formation of the details as in the general composition.

In alpine regions, where the surface of the ground rises into mountains, or is depressed into deep ravines, the implements, and the art of the landscape-gardener are equally useless. Except the operation of road-making, or forming a terrace, no other alteration can be made by him; and whatever he attempts for the sake of convenience or safety, or even ornament, here, the marks of his operations must always be carefully concealed.

Of Water. — Water is one of the indispensable elements of the landscape-gardener; it adds splendour to all his other dispositions. Whether as an estuary of the sea, a lake, a river, stream, or rivulet, it may form of itself, or may be disposed so as to form, the finest trait of the landscape. As a fluid, its natural bed is the lowest ground; and it should only be seen there, or on its way towards it. It is true, pools and springs of water are found on the sides, or even on the tops of mountains, and, as natural productions, they may, in such situations, be imitated, if practicable, without impropriety; but the lowest ground is the proper place, where only it will be best seen, and best show its pleasing reflections. Wherever water appears, it shows that the soil on which it reposes is impervious to it; and whenever it is to be displayed by the improver, the tenacity of the bed is the first thing to be ascertained, and, if a new channel or a new bed is to be formed, the bottom must be first made retentive before water can be admitted.

As an element, it is no less necessary than ornamental; useful as the principal food of vegetation, always refreshing to the eye, and from its properties of weight and fluidity, capable of being displayed as one of the principal ornaments of gardens in warm climates, and of garden scenery everywhere. When its source is high, either naturally or by art, it may be led as

a constant supply for domestic purposes, for fountains, reservoirs, and fish-ponds. In landscape it may be presented as a river, brook, or rivulet, expanded into lakes, formed into canals, or precipitated in cascades. For all or any of the above purposes, it is under the control of the improver; and its constituent properties fix the processes, and always must sanction the dispositions made of it.

All hydraulic expedients are also auxiliaries of the improver; objects may be gained, and operations facilitated by the use of them. Whether the object be to introduce water on the surface, or drain it away. A knowledge of geology is necessary to distinguish the qualities of the subsoils, so as to be able to determine which are, and which are not, retentive of water.

Of Wood.—This is the third and most transformable material of the landscape-gardener. With this he acts either positively or negatively: positively when he has to plant, and negatively when he has only to clear away. In the latter case, the effect is almost instantaneous; in the former, the effect is prospective. In both a thorough knowledge of future consequences is particularly necessary. The effects of his dispositions, after the lapse of a hundred years, ought to be as clearly conceived by him as those which are immediate. To be able to apprehend this, his botanical knowledge must be exercised; he must know the various characters of trees, and shrubs, and even herbs; their mature magnitude, height, habit, tints, whether constant or variable; their place in natural scenery, their favourite soils, aspects, and duration. He must be acquainted with their effect, value, and character, in thickly planted woods, in open groves, and as single trees. From the myrtle or camellia before the windows of the drawing-room, to the wild forester on the heath, the grades of woodland should be naturally disposed. The children of art or cultivation should not be placed in the distant native woods; the gay exotic should not appear in places choked with fern or brambles. Such should have a more dressed station, a more domesticated or polished place.

A valley may be injudiciously filled up by trees, and an eminence may be as judiciously crowned and strikingly raised, by planting a thick and sufficiently extensive wood. The face of a hill clothed with wood is a delightful feature; and where a distant slope can be seen, detached groups, and single trees descending in irregular order, are its highest ornaments. Trees may be employed as arms of shelter in exposed situations, as screens to conceal ugly or too obtrusive objects. From their manner of growth, they may be too formal for some situations,

and too grotesque for others. Aquatics should only appear in the near neighbourhood of water, and never on hills, unless it be to point out the source of a spring. The outline and pictorial character of trees must also be studied. Among them may be found the softly beautiful, the picturesque, and the majestic.

Dwarf trees and shrubs are of great importance in landscape; they are the natural associates of trees, they connect their lower branches with the ground, break the continuity of the browsing line in open groves, and serve as a scale of comparison when placed among taller growths. Planted in groups, or singly on a lawn, they break its uniformity, and produce an intricacy always pleasing to the eye. The holly, sweet-briar, and hawthorn, in woods and open lawns, and the furze, juniper, broom, and dog-rose, on distant banks, are the most convenient shrubs for park scenery. The broken margin of lakes or rivers, in picturesque views, should have their fringe of aquatic herbs.

The distinguishing character of trees should be well studied. Desirable effects may be produced by proper associations. Their forms and general colours may express light and airy, or deep and gloomy, effects. Painters have their favourite trees; they dislike thickly leaved lumpish-headed ones, but admire such as are rugged and contorted by age or accident, and, if perfect, that have a gracefully waved trunk and lightly tufted foliage, showing all the ramifications of the twigs and branches.

There is much fastidiousness evinced by artists, and among people of taste, respecting the forms of trees: some tribes are condemned *in toto*; others are only admissible in certain situations. That there are agreeable and disagreeable objects in nature, and in the vegetable kingdom in particular, is perfectly true; but why the aversion of painters to portray regular forms should be transferred by amateurs to a dislike of regular forms and all regular-growing trees, is rather unaccountable. The pine tribe of trees is seldom chosen by landscape-painters, except for alpine scenery. When growing closely together, pines, like all other trees, grow disproportionally tall, and, being denuded of lower branches, are certainly far from being handsome objects; but, when allowed room to present their natural forms, they become objects of the most graceful elegance; their aspiring height, their horizontal or drooping boughs, which seem to float unsupported in the air, or rising again after sweeping the ground, are, to an eye unsophisticated by *artificial taste*, most interesting. The painter dislikes them, because he fears that his picture

would appear as if executed by scale and compass. The amateur is so far biassed by the painter's prejudice, that he spurns them from his sight, because of their "unsocial shade," their "aspiring sauciness," and for their "murky" tints. The unprejudiced admirer of nature, however, values them because they are natural, never presuming to despise agreeable forms merely because they happen to be regular, knowing that regularity is an attribute of nature, as distinctly, though not so universally, as irregularity.

The fact is, the forms of some of the pines are really beautiful, though their general colour is not so. No one who compares, in the spring months, the mild fresh verdure of deciduous trees with the lurid hue of pines injudiciously placed, can hesitate which to prefer: but for bold expression, for giving depth and solemnity to scenes of seclusion and retirement, and for producing allowable contrasts with the gayer green of deciduous trees, they are invaluable; and, notwithstanding the objections of extreme taste, every body must admit that pines convey an impression of dress, and even richness, to every place where they are seen; and whether this impression arises from the knowledge that they are the children of cultivation, or from their peculiar character, does not detract from their value in sylvan scenery.

One thing, however, must be noticed relative to this tribe, particularly the Scotch pine. The prevailing custom, fifty years ago, of planting them in heavy clumps on the summit of every eminence, has deservedly called forth severe criticism on such glaring instances of bad taste. We often see places, laid out about that time, dotted all over with clumps of beech and Scotch firs, or large plantations where these two kinds of trees are regularly intermixed, than which nothing can be more unharmonious in tint and aspect. Such errors should be avoided. Their natural stations should be assigned them, viz. as back screens to more beautiful and delicate trees, or on distant hills which bound the views. They are rarely wanted in beautiful scenery, but indispensable in picturesque. The irregular-growing variety of the Scotch fir, the cedar of Lebanon, larch, and stone pine, are, when arrived at their full age, particularly picturesque.

Besides the natural character of trees and shrubs, as to value and other properties, they have also emblematical characters, and, as such, are used in ornamental planting, viz. the funereal cypress and yew, the weeping willow, &c.

(To be continued.)

ART. IX. *On the advantageous Planting of a Piece of Ground, with Remarks on Pruning, &c.* By AGRONOME.

Sir,

I AM sorry to inform you, that the plan which I proposed for myself, and other contributors to your Magazine, will not answer, viz. to write in haste, and correct at leisure. I wrote my first, as I proposed; but, instead of correcting it, something else came into my head, which I thought well to commit to paper before it went out of my head; and, before I had finished that, something else intruded; and so on, till I had finished all my paper, and yet not one sheet is fit to send you, much less to send into the wide world. Indeed, I did not think you would have published my last; to tell you the truth, I am rather ashamed of it: but I must endeavour in this to make amends, and say something that will be really useful to the public; and the following I shall call, in imitation of a certain great man, *The Profitable Planter*.

In the winter of 1814–15, on account of some alterations of roads, plantations, &c., a piece of land dropped into my hands, of an awkward shape for tillage, and rather too small for pasture; I therefore concluded to introduce a little spade-husbandry; as the piece was pretty near to the farm-yard, the intercourse or advantages betwixt them would be reciprocal. Accordingly, having no gardeners, I set farm-labourers to make so many ditches, four feet wide and two feet deep, at every twelve yards, clear across the whole; the turf and good soil were thrown on one side, and the bad soil on the other. The labourers wondered what such ditches could mean, as they were as wide at bottom as at top, and particularly when I ordered them to be filled up, a foot thick, with fresh farm-yard dung; and the turf, and what little good soil there was, chopped, and thrown on the top of the dung. I had prepared a compost of turf and dung the year before, which was laid upon the whole, about nine inches thick, in which I planted fruit trees in the following order: — At every six feet, in the centre of what I now called a border, was planted a standard, then a gooseberry, then a currant, then a dwarf, then a currant, then a gooseberry, then a standard, &c. I was not so particular as some are in my choice of fruit trees; I gave my nurseryman a kind of roving commission, to send me a couple of each of such as he could recommend, and then added two, four, six, or eight of such as I could recommend myself. On the edges of the borders I planted rows of strawberry plants, six inches apart, which I have only renewed about twice in ten years; the fruit is always excellent, and

supplies a large family all the strawberry season, which saves much garden ground for that crop. The spaces betwixt the borders I cultivated at my leisure; some were appropriated for nursery ground, some for potatoes, peas, cabbages, &c.; some for experimental agriculture, lucerne, mangold-wurtzel, &c. The orchard has succeeded beyond my utmost expectation. I had 48 apples from two Keswick Codlins, the first year, but have never had patience to count them since; last year I had at least seven bushels off the same two trees! Six dwarf Hawthorndens produced above fifteen bushels; and I have this moment two bushels of Wyker Pippins from one graft of my own putting in, only ten years ago. Two Dumelow's Seedlings, planted twelve years ago, produced at least eight bushels of beautiful fruit, scarcely one of them less than ten inches round, and many of them twelve inches. The Nonpareils are a very similar crop; as for the Manks apple, &c., there are generally as many apples as leaves; and, when in blossom, they seem an entire bunch of flowers.

My Method of Pruning is particularly simple. It will remind you of the old way of pruning, or rather cropping, the vines at the third eye. I do not stand counting eyes; but from every shoot that is three feet long, I cut off two, and, of course, leave one; from such as are three inches long, I cut off two, and so on. The wood left forms buds for the following year; and, as the tree gets crowded or out of shape, I take off a whole bough or branch with a saw. Any boy will learn to prune in a few minutes. I cut out the large boughs myself. A few of my trees took to cankering, the Ribston Pippin particularly. My only cure is, to dig them carefully up, examine and prune both root and branch carefully, and plant them again in similar fresh soil; they never miss to recover and do well. My extraordinary success has induced me to write this, *pro bono publico*, as it has been the custom, in this country and many others, to prepare a foundation for fruit trees, at vast expense, by flagging, paving, or gravelling in Mr. Harrison's manner, lest the roots get into the bad soil, and canker, as the saying goes; but trees will never go into bad soil, if they have plenty of good to go into, any more than cattle will go into bad pasture if they have plenty of a better quality. The roots of fruit trees do not, and should not, run deep in the soil; the borders should occasionally be top-dressed with good manure, and the alleys sometimes dug deep, and fresh manure put into them. My borders are now fully six feet broad, and the spaces betwixt, of course, a little curtailed. I used to grow five rows of celery in the intervals, and now I can grow but four; but the fruit trees pay well for the ground they occupy.

With such success, who would be at the expense of garden walls for apple trees; or attend to the theory and practice of pruning recommended by Mr. Harrison (Vol. III. p. 1.), whose system, nevertheless, may be very proper for a northern climate, or for some of the more tender sorts of apples which I am not acquainted with. The cause of the canker in trees is very similar to the cause of the scurvy in man; it is either a defect of the blood or blood-vessels; in trees it is generally the defect of the latter, as it is never the ascending sap which causes it, but always the descending sap, which is obstructed in its passage to the root. A wet autumn causes a superabundance of sap in the leaves, which, being forced to return in an undigested state, the pores are too contracted to admit it in a regular way, and it forces new channels in the bark; then the first frosty night converts such streams into ice, and they become what Mr. Forsyth calls "small dots, as if made with the point of a pin." Midsummer pruning is a good preventive. Trees will sometimes throw out one or two very luxuriant shoots, while the others are quite weakly; by this I always know, that it has thrown out one or two extraordinary luxuriant roots the previous season. I frequently dig under them, and find the rambler; if not, I dig them up, and am sure to find it; but this is more common and more vexatious in the walled garden than in the apple orchard; and I shall, perhaps, talk about it in my next. But I perceive (and, no doubt, you have perceived long ago) that my organ of Descriptiveness is very imperfectly developed. However, I am very happy to see that you have so many able and useful correspondents. I should like to pay a compliment to many of them, particularly to Mr. Dick, for his valuable letter on preserving apples; it exactly accords with my practice for very many years; but now I should require, I think, at least two acres of shelves for every acre of orchard, to follow his practice. He is perfectly correct in gathering the fruit before it is fully ripe: neither apples nor turnips will keep, or have so good a flavour, if allowed to grow to their full size. The best place for keeping apples is like the best place for keeping ale, viz. a good cool cellar, that is, for such as will keep at all.

I am, Sir, yours, &c.

AGRONOME.

ART. X. *Plan and Description of a movable Glass Case for the Winter Protection of Orange Trees, Caméllias, &c., planted in the open Air.* By Mr. J. HAYTHORN.

Sir,

It would be a most desirable object to accomplish, could we but have the more beautiful exotics so treated, as that in the summer months they might have all the advantages of the open air, and the proprietors all the pleasure of seeing them growing as if they were natives. I have long thought this practicable, and therefore throw out a few hints for yourself or some of your readers to improve.

Supposing that any part of a principal walk in the flower-garden, or pleasure-ground, were so situated as to be deemed worthy of such an embellishment; all that is necessary would be to consider how far such fine objects would fall in and associate with the other trees and shrubs around; and also how far the protecting frames would or would not appear displaced. Should no objection arise on this score, we have only to devise the means of defending the trees in winter by an economical covering which would not be unsightly; and, also, a convenient mode of giving the necessary heat.

The most simple covering would be square or circular wooden frames, with glazed pyramidal roofs; constructed in separate panels for the greater convenience of putting up and taking down. The dimensions, height of sides, and pitch of roofs, would depend on the size of the tree to be covered, always allowing for increasing growth. Heat might be supplied by any of the common methods, in flues (from a concealed fire-place), either of brick or metal, so conducted as to surround each tree in going and returning. These flues, of course, must be sunk beneath the surface, and contained in cavities of brickwork, covered above by turf or gravel, as circumstances direct.

I send you herewith a sketch of the frame (*fig. 122.*), as the first idea which occurred to me, but which I submit to your emendation.

I know not whether my advising such expensive erections for handsome exotics, however economically executed, would be justifiable, were it not that such frames would be as useful in the fruit-garden in summer, as they might be in the flower-garden in winter. Standard trees of the best fruit might be planted and trained to be so covered; vines in a circular trellis, might have their fruit brought to perfection; in short, they might be



put to many good uses, where there are collections of valuable fruit and flowering trees.

I very much approve of your plan for forming garden libraries; it would very much benefit and amuse our young hands, who too often lose much precious time from want of ability to purchase, or opportunity to read, books which treat of subjects connected with their business.

I have several other new ideas to send you, when I have leisure to take my pen; meanwhile I remain, Sir, yours, &c.

J. HAYTHORN.

ART. XI. *On preserving the Seeds of the Garden Ranunculus till the Season of Growing.* By Mr. F. SMITH.

Sir,

IN Mr. Hogg's *Treatise on the Auricula*, he recommends persons who raise seedlings to keep the seed perfectly dry; but, on trying his plan, I was somewhat disappointed, and therefore resolved on making an experiment.

I kept my seed in a damp room from the time of gathering it to the time of sowing, and, to my astonishment, it made its appearance exactly a month after sowing, and is now growing vigorously. Mr. Hogg, again, says, "sow it, if possible, in the front of a green-house, and you may expect it to make its appearance in about six weeks." Mine was sown in a common garden frame, without any more protection than is necessarily required for the auricula.

I think it may be safely said that my plan has the advantage of any other, considering the difficulty generally attendant on raising seedling auriculas.

Yours, &c.

Kennington Common.

F. SMITH.

ART. XII. *On the great Height to which the Culture of the Gooseberry has arrived, with some Remarks on their different Peculiarities.* By Mr. JOSEPH CLARKSON.

Sir,

ONE of the most surprising subjects in modern gardening is the improvement which has taken place in fruit during the last fifty years, especially in that of the gooseberry. By consulting the gooseberry-growers and their records, I find that the heaviest berries at the commencement of the above period seldom exceeded 10 dwts. It was about that time that people

began to cultivate the gooseberry in this neighbourhood, being stimulated thereto either by a spirit of emulation, or the value of the prizes.

The perfection of gooseberry fruit owes nothing to men of scientific knowledge, being cultivated scarcely by any but the lowest and most illiterate part of society, at least in this neighbourhood; but, by continued experience, and perseverance in growing and raising new sorts, they have brought the fruit from 10 to upwards of 30 dwts, and that, too, under the greatest disadvantages, not having the privilege of soil, manure, situation, &c., like the gardeners of their more wealthy neighbours, but oftentimes limited to a few yards of land, either shaded by trees, confined by buildings, or exposed to the most unfavourable winds, and so barren that they have frequently to carry on their shoulders a considerable way the soil in which the plants are to be set; yet so resolute are they in overcoming every obstacle, and so successfully ingenious in assisting nature in her efforts, that they are enabled to produce fruit surprisingly large.

I have made enquiry of the oldest growers I could meet with, some of whom are upwards of eighty years of age, but I have not been able to ascertain the time when, nor the place where, the improvement of gooseberry fruit first commenced. I have met with lists of several meetings which took place in 1786, in which I find the fruit divided into four classes, red, yellow, green, and white; each class containing four sorts, making sixteen sorts at one meeting, no one sort being allowed to win more than one prize at the same show. The classification of the fruit, the number of meetings held at different places, and the variety of sorts cultivated, at the above time, sufficiently prove that meetings must have been held for exhibiting the fruit several years before.

The attention of the growers was early directed to the raising of new sorts, being encouraged thereto by the liberal price given for each sort that was deemed to be a large one, all other properties being of a secondary nature; so that we are now furnished with an extensive variety, possessing excellent qualities, both for size, quantity, beauty, and flavour. I would here observe, for the information of those who have no experience in gooseberry-growing, nor any knowledge of the peculiarities of the different sorts, that there is considerable latitude in the properties of this excellent fruit, some sorts being remarkable for their large size, such are the Roaring Lion and Eagle; others, again, are remarkable for their beauty, such are the Lancashire Lad, Top Sawyer, Rockwood, Sovereign, Bonny Lass, and others; some, again, are remarkable

for their rich flavour, and others for producing large quantities; some sorts have their fruit large very early, while others are small until nearly ripe; some, again, bear large berries, but only a few of them, while other sorts bear both large and numerous berries; some sorts are ripe early, as Top Sawyer, Huntsman, Rockwood, &c.; some, again, continue to grow much longer than others before they are ripe, such are the Printer, Duckwing, and several more. Now, unless a person knows the names and peculiarities of the different sorts of gooseberries, he is not likely, when he gives an order for plants, to be suited according to his wish, as there are several sorts not worth growing.

I am, Sir, &c.

Blackley, near Manchester.

JOSEPH CLARKSON.

ART. XIII. *On the Culture of the Potato.* By Mr. C. HALE JESSOP, Nurseryman, Cheltenham.

Sir,

I HERE send you a few lines on my mode of cultivating that inestimable root the potato, a vegetable so little thought of a century ago (*Encyc. of Gard.*, p. 624.), that the famous nurserymen, London and Wise, did not consider the potato worthy of notice in their *Complete Gardener*. The rapid progress which this most useful of cultivated esculents has made, its varieties, and the various uses to which it may be applied (Vol. I. p. 438.), must be viewed by all with astonishment and delight. By some it is considered as the poor man's food; but at what table does it not almost daily appear, more especially at the tables of those who, like myself, prefer a vegetable diet, where its use could not be dispensed with?

I have for many years successfully cultivated the potato in the under-mentioned manner, and the crops have much surprised those who have seen them, no small ones or refuse of any kind being produced.

It must be allowed that, either in the growth of timber or potatoes, we cannot get beyond a certain quantum on a certain surface, and every one will allow that thick planting is not the way to obtain it, and must to a very great degree exhaust the soil, especially with potatoes you expect to produce again. My practice is as follows:—

Double-dig the ground, and, without manuring, plant the potatoes whole, 2 ft. apart each way. When the plants rise, I hoe and draw the earth up to them, moulding entirely round

each plant, by which mode all have room to swell and bring their tubers to perfection. The soil is not much exhausted by this practice, and the potatoes are easily got at so as to mould them up, even in their last stage of growth. I next pick off the blossoms, a practice which has been proved by Mr. Knight to add to the produce one ton per acre. Sir Robert Williams Vaughan, Bart. M.P. and F.H.S., at Nannan, county of Merioneth, seeing my method, was, I believe, led to the raising, on his estate there, that immense though late-planted crop, noticed in a communication to the Horticultural Society, and which appeared in the Gardener's Magazine for January, 1827.

I allow potatoes to be planted wherever I make plantations of trees for timber, as the spaces between the trees can be profitably used without detriment to them, and from the way the potatoes are moulded round, whatever rain falls in a dry summer, is quickly conveyed to the roots of the newly planted trees, as it runs down the hill of earth containing the potatoes.

Yours, &c.

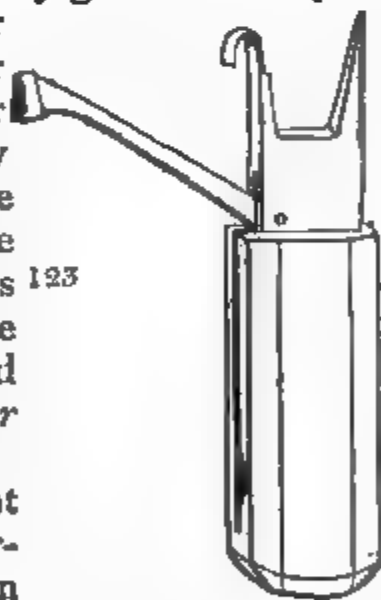
Cheltenham, March 13. 1828.

C. HALE JESSOP.

ART. XIV. *Abridged Communications.*

RINGING Trees.—I have found a very great economy in ringing, by the use of the common scorer used by woodmen in marking timber trees. (*fig. 123.*) I ring many of our shrubs and ornamental trees, to throw them early into blossom, and to cause them to produce larger blossoms. I have flowered the tulip tree at seven years ¹²³ from the seed-bed, and I have a very fine set of dwarf fruit trees all circumcised below the surface. — *John Brown. Near St. Albans, March 21. 1828.*

Amaryllis vittata.—This showy plant I have this season flowered in great perfection, by shifting it, as soon as it began to grow, in the month of January, from a 32 to a 12-sized pot, without disturbing the ball; and with soil composed of equal portions of perfectly rotten dung, leaf mould, river sand, and light loamy soil, mixed together. I watered sparingly till it began to grow, and afterwards plentifully. One of my plants produced two scapes nearly 3 ft. high, each bearing five large



flowers, which, when expanded, measured 2 ft. 6 in. round; heat, from 55° to 75° . — *James Pickering, Under-Gardener, Northwick Park.*

The Size of Garden Pots at Liverpool, by Mr. James Rollins, of Dingle Bank. — As the sizes of our pots here differ from those used about London, I have annexed a sketch (fig. 124.) of their



numbers and dimensions. This may be useful; and I could wish some of your country correspondents would favour your readers with a corresponding scale of the sizes used about the metropolis. These pots are numbered 1 to 36; each pot is exactly the same width at top and bottom, or, if any difference, the bottom is rather narrower. The height, also, of each pot is the same as the width. The same piece of clay which will make the pot No. 1., will make 24 of the size No. 24.; and 36 of the size No. 36.; and so on. Hence the origin of the potter's expression of so many to the cast or dozen.

No. 1. is 20 in. in height and diameter, and 1 to the cast.

2.	16	...	...	2
4.	14	...	...	4
6.	12	...	...	6
8.	10	...	...	8
12.	8	...	...	12
18.	6	...	...	18
24.	4½	...	...	24
30.	3½	...	...	30
36.	3	...	...	36
36.	2½	...	...	36

ART. XV. *Collectanea.* By JOHN MURRAY, Esq. F.S.A.
F.L.S. F.H.S. &c.

NITRE. — I watered a bed of choice carnations last season with a weak solution of nitre, repeating it occasionally. Its good effects were unequivocally manifested in the luxuriance of the leaf and size of the flower.

White Mulberry. — I have discovered that the parenchyma of the white mulberry is composed of a tissue of beautiful white fibres of silk, much resembling China silk, and which

would lead us to infer that silk is a vegetable, not an animal product, that is to say, that the basis of the material, in its proximate form, is derived from the vegetable kingdom, though the spinning of its substance into a lengthened thread is entirely due to the mechanical functions of the silkworm. The silk tissue of the mulberry becomes very obvious by breaking some decayed twigs of two or three years' growth.

Prímula sinénsis. — I had, last winter, the *Prímula sinénsis* fully exposed to all the severity and vicissitudes of the season, which it withstood well; and it was interesting to witness this pretty plant in full bloom, when the ground was covered with snow.

Bregazzi's Hot-bed Thermometer. — I do not know whether Signor Bregazzi claims this invention as his own; I can only say, that when I called, in 1819, on M. Regnier of Paris, for the purpose of seeing his invention for making annular incisions on the vine (the utility of which practice was then much vaunted of), I was at same time shown a similar thermometer, invented by this ingenious mechanician.

Grapes. — I remember once dining with a physician, when two parcels of grapes were introduced in the dessert. These grapes were as dissimilar as could well be imagined; the one seemed equal to foreign, large and rich; the other, scarcely edible. I was surprised to hear that they were taken from the same tree, the growth of England, and of the open garden. The only difference was, the fine grapes were such bunches as happened to be tied up in black crape, and the others in white gauze, merely done to protect them from the attacks of birds and insects. On the latter clause of information, my surprise subsided. This is of easy application.

Changes of Seed in Trees. — Curious instances of this description are recorded. In the Gardener's Magazine the case of the nutmeg has been adduced, as affording an extraordinary example. The *Táxus baccàta*, or yew, is a dioecious tree; but, on the property of Mr. Donaston of Westfelton, there is a beautiful yew, elegantly pendulous or weeping, and exceedingly graceful. Of late years it has been clothed with male and female flowers, and Mr. Donaston has reared young plants from seed taken from the tree. I possess a male branch from this highly ornamental tree, containing the nest of the golden-crested wren.

PART II.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

THE Horticultural Society of Paris held a Meeting on the 1st of October, at which several papers and letters were read, some books and pamphlets presented, and some flowers and pears exhibited. A paper on Pruning Forest Trees, by M. Februrier, of Versailles, advocate, gave rise to a good deal of discussion. He recommended pruning when the shoots were young, and, if possible, under an inch in diameter. It was argued by others, that, though this might be better for the trunk of the tree, yet, as it was highly desirable that the prunings of trees should repay the expense of the operation, it were better to allow the branches to grow larger. The former practice might be the more scientific, and the better with reference to the trees, but the latter was more expedient, and the better with reference to the proprietor. It was settled by Baron Silvestre that, before determining which mode of pruning was best, it was necessary to consider the object in view ; that when a large fine trunk was the object, unquestionably it was best to cut off the side branches when they were very small ; but that where fuel was the object, more would be gained by letting the branches become large, and most of all by pollarding the tree, or cutting it over periodically by the surface, in the manner of coppice wood. A letter was read on the *Cormier*, (*Sorbus domestica*), in which the writer deplored the scarcity of this tree in many parts of France where it was formerly abundant. The timber was valued beyond that of all other indigenous trees for the formation of screws for wine-presses ; the fruit was eaten, and a wine made from it as well as a very strong spirit. The writer recommended the culture of this tree, not so much for its fruit (as it seldom blossomed till it was thirty years of age), as for the sake of its timber for screws. The recommendations of this writer were opposed by several members ; it was affirmed that the fruit of the *cormier* was one of the most wretched that was produced in France, and never eaten by the peasantry when they could get any other ; in districts where this tree abounded, it had become a common expression, to designate the greatest degree of misery, to say, "*Il ne mange que des cormiers*" (They live upon sorbs). With respect to screws, the argument was worth little, because it was well known that better and cheaper screws were made by machinery from iron, than could be made by manual labour from the wood of the sorb, or from any wood whatever. It was remarked that the writer of the paper had stated a circumstance in the natural history of the *cormier*, which showed the great improvement which might be made by art on objects in a state of nature, and that the susceptibility of natural objects of such improvements ought to be an encouragement to them to proceed in their labours. The sorb, it was stated, in its wild state, did not produce blossoms till it was thirty years of age ; this is because in its wild state it is propagated by seeds ; in our nurseries it is propagated by

layers, and by inarching on the mountain ash (*S. aucuparia*), and produces blossoms and fruit the first or second year. The curator of the botanic garden of Naples sent a letter on the Destruction of Insects by a Powder composed of pepper, nux vomica, and tobacco. This powder was supposed to be eaten by the insects, and to act as a poison; but it was suggested by some gentlemen present, that it probably acted only by the smell of the pepper, which, it was well known to housewives, drove away the moth from clothes, and was consequently put in wardrobes for that purpose. It was recommended to the committee of experiment to try the ingredients of the receipt separately, and to report on their effects.

The flowers exhibited were chiefly dahlias, from the gardens of M. Fourcheron, at Passy, M. Godefroy, at Ville-d'Avray, M. Soulange-Bodin, and M. Boursault; the finest flowers seemed to be those of the *Dahlia Thouin*. A very large pear was exhibited, produced by a seedling tree, which had sprung up in a garden accidentally; the gentleman who sent it proposed that it should be named by the Society the *Poire d'horticulture*. A plate of pears of a smaller size was exhibited, which were said to be of the melting kind, and of very excellent flavour; the time of eating about the end of October. The tree stood originally in a natural wood, and its fruit having been observed by the country people to be excellent, when the wood was stocked up by the proprietor, two or three years ago, this tree was left at their suggestion. Grafts have been taken from it by different persons, friends of the proprietor or his gardener.

We see here the origin of most varieties of fruits in France till the time of Van Mons, and Comte Coloma, who raised trees from seeds on purpose to procure new sorts; and we learn also the manner in which different names come to be applied to the same fruit.

Société d'Agronomie Pratique.—From the time of the establishment of the Horticultural Society of Paris, an adverse party has existed, chiefly of practical men, at the head of which seem to be M. Noisette and M. Boitard. The latter is the editor of the *Journal des Jardins* (of which we shall give an account in a succeeding Number), which has appeared in monthly numbers since January last, and contains a critical review of the *Annales de la Société d'Horticulture*, as published. This horticultural opposition, as it may be called, has begun to organise itself, and its first Meeting was held on October 6th, under the name of *La Société d'Agronomie pratique*; the president, Lieutenant General Comte Coutard. This Society proposes to embrace all the sciences which have relation to agriculture and horticulture; it will publish a journal entirely consecrated to subjects which contribute to the progress of culture; its members will also give public and gratuitous courses of lectures on botany and vegetable physiology applied to horticulture, and on all the branches of the natural sciences which bear relation to agriculture. M. Boitard, who will be an active member of this Society, has promised to report its progress to us from time to time. In all probability the two societies and the two journals will end in a union; either in consequence of a greater regard, in the leading members, for the prosperity of horticulture, than for the display of party feeling; or from that comparative indifference to both, which is the necessary result of powerful exertion. After both societies and journals have spent their first fires, they will cool, and in all probability settle down, like other societies and journals, into a state of routine. In the mean time a stimulus will be given to horticulture in France, from the zeal and emulation of so many persons connected with that art, or interested in its progress.

Of the good to be effected in France, or any where else by horticultural, agricultural, or, we might almost say, any other societies, except always that great society the government of the country, we have not, nor ever had, any very sanguine idea. If we examine into the causes which have contributed to the eminence of any particular class of men in any country,

and in any particular art or profession, we shall find that early education has had a greater influence than any other. We have not time at present to prove this in detail, but we can assert, without fear of being found wrong, that the most speedy and effectual manner of raising all the arts of a country to the highest degree of perfection, and precisely to the degree necessary for the greatest prosperity of that country, is to facilitate the education of the great mass of the people, and leave all the rest to individual exertion. Render the whole population of a country a reading population, and you will soon have every thing from that population which human nature is capable of, under the given circumstances of climate and geographical position. Paris may be said to be overstocked with science of every description. Speaking generally of books on agriculture and horticulture, those published in Paris are much more scientific than those published in London. There are not, perhaps, half a dozen practical gardeners in Great Britain, who, strictly speaking, can be called scientific men: but there are several times that number in France, who have gone through a complete course of instruction, theoretical and practical, under the late M. Thouin, at the Jardin des Plantes; who understand and apply the Jussieuean system of botany, and reason on the operations of pruning and culture, in accordance with the current principles of vegetable physiology and chemistry. But all the other gardeners are in the lowest state of ignorance; whereas, in Great Britain, 10,000 gardeners may easily be found who understand botany, who are general readers, and who are in fact exceedingly well informed men on every subject. In France there seems no gradation from the highly cultivated and intellectual professors, authors, and members of societies, of the metropolis, to the most deplorably ignorant, and, in comparison with England, miserably fed, mass of country population. The first and grand source of improvement for France is the removal of this ignorance; when that is effected agriculture and gardening will be carried to a higher degree of perfection than they can ever be in Britain; because her climate admits of a greater variety of products in the open air. We do not say that the effects of agricultural and horticultural societies will not contribute to this improvement; but we do say that incomparably more would be effected by a powerful society for the general diffusion of education, for the establishment in every village of a school for teaching reading, writing, arithmetic, and drawing; and, if possible, in addition, a small general library, and what we have in a former Number of this Magazine named a labourer's institution. The establishment of such schools and institutions would be worthy of an enlightened government; but every government is not enlightened, and perhaps it is the destiny of mankind to obtain such institutions with a little difficulty, in order that they may prize them higher, and retain them longer. It is a fact, that the necessity of educating the mass of the people has long been as fully acknowledged by the learned men of Paris, as it has by a great number of individuals in England, and especially in Scotland; but in Britain the opinion being more general, and more freely expressed, it has more influence on the government. In France, as in every other country, public opinion is gaining ground, and the natural tendency of things in all countries is to arrive at the acknowledgement of this principle as the basis of public government.

Société pour l'Enseignement Élémentaire, Rue Taranne, No. 12. — The number of hospitals and public charities in Paris is astonishing; some account of them may be found in a work entitled *Almanach Philanthropique*, by M. Eugene Cassin, of Rue Taranne, No. 12., who is a general agent for the Horticultural Society of Paris, the *Société pour l'Enseignement Élémentaire*, and for several others. The last-named Society was established soon after the Lancasterian system of education came into notice in England; and its object was to diffuse a knowledge of this system in France, and on the Continent generally. The Society was at one time in a comparatively flourish-

ing state, but a good deal of opposition has been shown to it by the clergy, during the last twelve years. At present, there are twenty-four Lancasterian schools in Paris, and a few in the provinces. Reading, writing, arithmetic, drawing outlines (*dessein linéaire*), singing, and marching are taught to the boys; and the same to the girls, with the exception of drawing, which is substituted by the different kinds of sewing and needlework. According to a report made to the last General Meeting of the Society, the instruction of each child costs the Society from 7 to 8 francs a year! Meetings are held twice a month; at that on the 1st of October, at which we were present, the Duc de Doudeauville was in the chair; letters from several provincial societies were read, and specimens of architectural drawings, made by the children instructed in the Lancasterian manner at Caen and Rouen, were exhibited. The drawings were exceedingly well executed, though the children had not been taught above a year. An engraved model of the sort of penmanship taught was on the table, in which it was satisfactory to observe that the French *s*, and other peculiarities in French penmanship, were substituted by the forms of letters in general use throughout Europe and America. M. Pecchio, an Italian gentleman, who has resided some time in England, gave an account of the infant schools in York, and other parts of the country. Among other observations, he stated that he did not think that schools for gymnastic exercises were ever likely to become general in England; because there all classes of young people were much addicted to field sports, and because it was not likely that parents would be willing to pay for a description of education that they could not but feel was, in a great degree, unnecessary. [The kind of exercises which children and young people are naturally inclined to indulge in, seems to depend materially on the kind of food they eat. We suspect the taste of young people on the Continent for the *jeu de bague*, *cheval à bois*, *balançoire*, and other what may be called inactive amusements, may be traced to the influence of soups, the frequency of fast days, sour wine, and the want of animal food on the stomach; beef and porter lead to a different character of exercises; for man, after all, is subject to the same laws as other animals.] Comte Lasteyrie remarked, that an improvement in the instruction of the children had been made, by teaching them to walk and sing at the same time. He also stated that, for the working classes of society, the elementary acquirement next in importance to reading, writing, and arithmetic, was drawing. This every gardener, carpenter, and mason will feel to be the case; and we hope the first class will not neglect this, in directing the studies of their apprentices, and in the education of their own children, male and female. Having become a member of this Society, the subscription to which is only 25 francs a year, we intend, from time to time, to give reports of its progress, as well as of the progress of education generally in France; and, if we can accomplish it, without infringing on the space which must necessarily be devoted to the more immediate subjects of this Magazine, we mean to extend our views to the working classes of society, generally, throughout the world. For this purpose, we request information from such of our readers, especially in Europe, America, and Australasia, as have it in their power, or take an interest in the subject. To-morrow (Oct. 10.) we leave Paris, for the agricultural establishment at Boville, near Nancy, under the direction of M. de Dombasle; thence we proceed to Munich, where, if we find any thing of temporary interest, it will be found in its proper place; matters that require being treated at length, we reserve for our general journal. — *Cond. Paris, Oct. 9. 1828.*

Strasburg, Oct. 19. — On our way here we looked into the gardens about Nancy, the national establishment for breeding horses in the neighbourhood of that city, the farm and agricultural institution of M. Matthieu de Dombasle at Roville, the English garden of M. Dorpat at Epinal, the museum of the Société d'Émulation, and the Lancasterian school in that town, &c.

From Epinal we have sent home some straw hats, the forms of which we intend to recommend to lady gardeners and others in England, as affording superior protection both from the sun and rain. The city of Nancy contains squares and streets of palaces scarcely inhabited, the population and prosperity of the place having been gradually declining for the last thirty years. In the centre of the town the streets are becoming covered with grass, and the outskirts exhibit scenes of filth of which no person who has never been out of England can form any idea. The actual state of things at Nancy may be cited as an example of the result of a forced or accidental prosperity, in consequence of a rich individual taking up his residence there, as distinguished from that gradual, but effectual and permanent, amelioration, which is only to be produced by enlightening the great mass of the population, so as to enable them to attain wealth and prosperity by their own labour. Had Stanislaus spent only a few hundreds in building public works and establishing common schools, he would have raised the character of the people of Nancy, instead of merely ornamenting their town. In his day, however, what were called the great had not been taught to study the amelioration of the lower classes; and, as the character of a man must always be estimated by the times in which he lives, it was enough for Stanislaus to have ranked high in the exercise of the virtues of his time, which, as it ought, has procured respect for his name.

The botanic garden at Strasburg contains upwards of 4000 species, among which are some fine old specimens of hardy trees, and some large Australasian plants, presented by the Empress Josephine, from the garden of Malmaison. The male plant of *Salisbùria adiantifolia* flowers here every year, and beside it has lately been planted a female plant received from Professor Decandolle of Geneva. The principal nurseryman here is M. Hodel, whose son is a very remarkable young man. He has worked, as a gardener, in Holland, France, and England, and writes and speaks the languages of these countries, as well as of Germany. He has botanical correspondents in every part of Europe and in America, and has personally, and through them, collected a very extensive herbarium. It is arranged according to the Jussieuean system, and is rich in *Orchídeæ* and ferns. The orders are put together in boxes according to their initial letters, as good a plan for a herbarium as any we have yet seen. In our journal we shall have more to state of M. Hodel, the excellent director of the botanic garden here, and of other nurserymen, &c. — *Cond.*

GERMANY.

Munich, Oct. 30. — We left Strasburg on the 20th, and, after ascending for six days, along a winding avenue of fruit trees, upwards of 250 miles in length (Munich being, in altitude, the second city in Europe), arrived here on the 26th. The greater number of these trees are ungrafted cherries, which succeed in the poorest soil, and in the most elevated and cold situations, better than any other fruit tree; their timber is valued by the cabinet-maker, and from their fruit is distilled kirschwasser (p. 179.), an article in great demand. The kind of fruit tree next in number in this avenue is the apple, grafted; its fruit is used for making cider; and it is also cut into slices and dried, for putting into soups in winter. The remaining sorts are the walnut, pear, and plum. In the neighbourhood of the towns, these avenues have been planted a good many years; but in many places where the situation is elevated and the soil poor, it is only within the last three or four years that the practice of planting cherry trees has been adopted.

The first day's journey was through a flat rich country, chiefly under pasture, and extending from Strasburg to the valley of Kentzig. The second day, we passed through this valley, which is highly beautiful and

romantic, without being grand, and exhibits the irrigation of irregular grassy surfaces, carried to a greater extent, and to a higher degree of perfection, than has been done, we believe, either in Italy or Britain. A proprietor of lands in the Highlands of Scotland, or in Wales, should see the crops of grass raised on the steep irregular sides of the hills that include this narrow valley, in order to form some idea of what his territory is capable of. The inns in this vale are decidedly more clean than those of France, or of the districts of Baden and Bavaria which we have hitherto passed through, and the cause, probably, originates in the great abundance of running water. The cottages are large, and display an exuberance of design in their construction, which has obviously arisen from the ample supplies of wood, chiefly spruce and silver fir, with which the tops and rocky parts of the hills are clothed. The third day was spent in passing through and examining the Black Forest, of which one part consists of pine and fir woods, and another chiefly of oaks and beeches. The greater part of the tract of country, however, which bears the name of Black Forest, is an elevated, irregular surface, with no other wood than the young cherry trees which have been lately planted by the road side.

At Doneschingen, in the Forest, we found the best inn which we have met with since leaving Paris; and, near it, the gardens of Prince Fürstenburg, containing a good collection of heaths and other Cape plants, and a very complete forcing establishment in pits, in the manner of M. Labouchere, at Hylands. (Vol. III. p. 385.) The gardener, M. Marstrand, is a Dane, a pupil of M. Lindegaard, F.H.S., and a well-informed man. He has a garden library, containing German, French, and English books, as he understands these languages as well as his own; and here, as at Strasburg, Augsburg, and Munich, we found the *Encyclopædie der Gartenkunst*. At two of these cities we found the Gardener's Magazine also; which, with the *Magazine of Natural History*, has now, we trust, struck root in many places in Baden and Bavaria.

The fourth day, we passed over a hilly country to Ehingen, examining, at Grauchenweis, a frontier village of Wurtemberg, the grounds, and house recently roofed in, of the hereditary (or expectant) Prince Hohenzoll Sigmaringen. The house is a cube of brick, to be covered by cement, and the whole of the interior is to be heated from a hot air stove, built in the cellars, and communicating with the stairs, passages, and every apartment, by means of flues in the walls. There are open fire-places in the principal apartments. The interior arrangement of a square house is always sufficiently simple and obvious. What is commendable in the exterior of this mansion are, a low roof, without windows in it, and a portico of sufficient projection to admit a carriage. The chimney-tops are not so well managed for a square building; they are small, and scattered irregularly over the roof, as in Italy; whereas, they ought to have been in masses, and placed symmetrically. But it is a great improvement to have got rid of the high roof and garret windows, which always convey a mean expression, and, to our taste, degrade most of the finest private houses in France and Germany, as the chimney-tops do most of those in England. The grounds are laid out in the English manner of Sckell, the father of the natural style of landscape-gardening in Bavaria, and one of the most scientific professors of that art that has ever appeared in any country. Whatever has been done by him, is known by any one conversant with the subject, at the first glance, by the trees and shrubs being all arranged in masses of one kind, in imitation of nature, and in accordance with the principles of painting. We know of no landscape-gardener in England, who, like the late M. Sckell, united at once the practical knowledge of gardening, agriculture, and botany, with the knowledge of the principles of painting, and, generally, of the fine arts; who was, in fact, at the same time, a gardener, a painter, and a metaphysician. However it may startle the English reader, to be told that the Eng-

lish manner of laying out grounds may be better learned in Bavaria than in England, yet we make the assertion without the least hesitation; and we refer to the parks and pleasure-grounds laid out by the late M. Sckell, and by his nephew of the same name, the present director-general of royal gardens in Bavaria. We refer, in particular, to the gardens of Nymphenburg, of Berg near Würmsee, and to the park, or public English garden, of five or six hundred acres, at Munich. We shall hereafter give plans and descriptions of these gardens, and also a translation of what the late M. Sckell has published on the subject of his art.

The fifth day, Oct. 24., we visited the grounds of two noblemen in the neighbourhood of Ulm, and examined the gardens round the city. Ulm is celebrated for the growth of asparagus, which attains a larger size there than any where else in Bavaria, owing to some peculiarity in the soil; as, at two miles' distance, it is found impossible to bring asparagus to the same degree of perfection. Different gardeners with whom we conversed on the subject, attribute its excellence to the deep dry sand, which is trenched between 4 and 5 ft. deep, and made up with strata of manure. Two-years seedling plants are transplanted in rows, 1 ft. in width between, and the plants 2 ft. apart in the row; the plants in one row alternating with those in the other. By this method, there is a space of 2 ft. between plant and plant; though, on a given number of square feet, there are a greater number of plants than one to each foot. The object of the space is, to admit of stirring the soil in spring; and, in order that this may be done without injuring the crowns of the roots, a strong stake, standing a foot above the soil, is fixed at each plant. Very little covering is put on the plants in the winter season. The stalks produced are said to be near an inch in diameter, and the beds last from twelve to fifteen years.

On Oct. 25. we examined the gardens round Augsburg, having, as a guide, Gaspar Schentz, a young man from the botanic garden of Stuttgard, a good practical botanist, and well informed in his profession; he is the gardener of Baron Wohnlich, the greatest amateur here. There is a nursery by M. Schultz, in which there is a collection of hot-house and green-house plants, which quite astonished us for its extent. Considering Augsburg as a country town, and comparing it with Bristol in England, this collection seemed to contain a good many more species than the hot-houses of Messrs. Millar and Sweet there did in 1816; and, certainly, more than the hot-houses in any nursery in Scotland contained in 1805. We state these things, merely to enable our readers to form a comparative idea of the love of plants and gardening in Germany. It is impossible to be even a very short time in this country, without being convinced that, in proportion to the wealth of the inhabitants, that taste is many times greater than in Britain. The scientific manner in which every thing is pursued in Germany, and, we may say, on the Continent generally, will one day carry all the arts of utility and enjoyment to a degree of perfection that it is almost fearful for a mere Englishman to contemplate: but we know the greater part of our readers to be citizens of the world; and, for the rest, it may be sufficient to state, that it will be a long time before the agriculturists of Germany raise a sufficiency of green crops to support the quantity of live stock necessary to enable them to make the most of their land; and, after this is attained, another long time to establish manufactures and commerce, to such an extent as to cope with England in riches. For ourselves, we confess, it is satisfactory to observe and be convinced that the Continent, generally, is making rapid advances in every description of improvement; and to contemplate, in future ages, a degree of perfection in arts and civilisation, and of refinement in manners, beyond what at present exists in Britain or in any part of the world, convinced as we are, that the property and happiness of Britain will be rendered doubly permanent and secure by the prosperity and happiness of all the other nations by which she is surrounded; and

that there is no such thing in nature or civilised society, as one nation enriching itself, either exclusively, or at the expense of another, for any length of time.

On the 26th, we went from Augsburg to Munich, through a country which may be described as one immense forest of spruce firs; but continually broken by extensive glades of every variety of form and extent, subjected to cultivation. This tract being comparatively a new country, the farm-houses, instead of being congregated together in villages, are placed on the lands belonging to them. This circumstance has given rise to fences, and begun a new character of country, which will end in a system of fields enclosed by hedges, as in Britain. Indeed, with respect to farms of any extent, the system of enclosed fields, however uncommon on the Continent at present, will ultimately be adopted in France, and all those parts of Germany where the grounds are not covered with snow two months in the year.

One great object that we had in view in visiting Bavaria was to inform ourselves, by personal inspection, of the state of its agriculture; it having been represented to us, immediately after the publication of our *Encyclopædia of Agriculture*, by the Baron Eichtal, of Munich, then in England, that we had given a false view of the agriculture of his country, in representing it as greatly behind that of the surrounding states. Why we did so was entirely owing to want of recent information, and because we had never been in Bavaria ourselves. There is no book, either in the English or French language, that gives any account of the agriculture of Bavaria, more recent than that which we have given. We can assert this, with respect to English books at least, with confidence; and since we have conversed with different agriculturists at Paris, and especially with the Baron Silvestre, the Chevalier Masclet, and M. Matthieu de Dombasle at Roville, we are equally confident that no information, as to Bavarian agriculture, has been published since the edition of the *Cours complet d'Agriculture*, which we made use of in composing our *Encyclopædia*. From the German booksellers in London, and from the Leipsig catalogue, we could neither hear of, nor find, any German work on the subject; and, since our arrival here, we have ascertained that there is no such work in existence, except some tracts recently published at Munich, and little known out of Bavaria. On referring to English works, it will be found that we have softened, rather than aggravated, what is stated in them, as to the agriculture of Bavaria.

Our business is now to speak of Bavarian agriculture from personal inspection; and though we have much the greatest part of the country yet to see, and consequently shall not give our final opinion till we have passed through it, yet we have seen and heard enough to convince us that Bavaria, so far from being behind the surrounding German states as to agriculture, is in advance of at least some of them in that art. We believe, also, that she is in advance of all of them in respect to enclosing common lands, which has been practising in Bavaria to a considerable extent for the last twenty years. It is agreed on by those here, whom we consider fully competent to judge, that M. Hazzi, some of whose works we have noticed in former Numbers of this Magazine, is the father of modern agriculture in Bavaria, as the late M. Sckell was the father of landscape-gardening. About thirty years ago, M. Hazzi printed a catechism containing all the best principles and practices of European agriculture, and had influence enough with the government to cause it to be taught in all the schools of the kingdom. Soon afterwards he published his work on enclosing common lands, which is done by consent of the proprietors, as in England, and for which also he procured the countenance and concurrence of government. About the same time that the *Agricultural Catechism* was published, a system of what may be called parochial schools was established throughout Bavaria, differing from those of Scotland, in teach-

ing the children not only to read, write, and count, but to work; and, in order that this might be done more effectually, to each school were attached a garden and a field. The garden and field are given by the parish, a small sum per annum is paid to the schoolmaster by government, and the rest by the parents of the scholars. In consequence of these schools, we have been informed, there are few or no children born in Bavaria, since a short time after the French revolution, who cannot read and write. M. Hazzi, who has extensive estates, mentioned to us that all his peasants could read and write; and M. Sckell states the same to be the case with all the under-gardeners and labourers in the different royal gardens.

M. Hazzi and a few others also established an Agricultural Society, which has risen to considerable eminence and done much good, chiefly through his unremitted exertions and entire devotion to its prosperity. This Society held a Meeting on the 29th instant, at which we were present, and we found there, among other amateurs and proprietors, the Chevalier Joseph de Baader, Conseiller des mines et Academicien. He is the first civil engineer in this country, was nine or ten years in England, in the time of Wilkinson, the great iron-master, and is the inventor of the suspension railways, and of several subsequent improvements in railways, which he considers of great importance, and which he intends to make known in England through Mr. Tredgold. Nothing in Munich has gratified us more than to find that the great merits of Mr. Tredgold are fully appreciated by M. de Baader, the latter considering the former, and, as we believe, with the greatest truth, as the most scientific, and, in all that relates to science, generally accomplished civil engineer that Britain has yet produced.

But to return to the Society of Agriculture; it has a library of German and French books on culture, which, from the great number of volumes, as well as from what was told us, we should suppose to be one of the most complete that exists. It has also an extensive museum of models, and another of implements of the full size; a collection of dried stalks of the different sorts of corn, and of specimens of all the seeds used in the agriculture of Europe. Besides specimens of seeds, it possesses larger quantities of all those sorts considered most useful for Bavaria, which are given away to such cultivators as may ask for them, simply on condition of their rendering an account at the General Meeting, which is held once a year, of the success that has attended their culture. We have much to say respecting this Society, which we must reserve for the detailed account of our tour; but we cannot delay noticing that the prizes given are generally implements, seeds, or books on agriculture. These last are bound with certain insignia, which distinguish them as rewards of merit given by the Society. M. Hazzi mentioned to us, that in this way the Society had distributed all over Bavaria many thousand volumes of the best German works on agriculture and gardening. We have, in fact, never heard of a society which has accomplished so much in so short a time, and with so slender means, the government having afforded them little or no assistance; indeed, we firmly believe that the slenderness of the means is the main cause of the good done; for as no officer of the Society has either emolument or patronage, and as the Society has nothing to give that it would be valuable or flattering to a rich, or great, or vain man to receive, it follows that few or none enter into it who have not either the good of the peasantry of the country at heart, or wish it to be believed that they have. The Society limits its honours and benefits entirely to practical cultivators, or what is called the peasantry of the country.

There is another agricultural institution here of more recent formation, and specially patronised by the government; it is under the direction of the intendant of government property, M. Schönleutner, who is assisted by

several professors. The object of this institution is to teach young men the practice and principles of aration, and the management of live stock. The pupils are divided into three classes, who pay different sums per annum. The first class is intended for what would be called in England working bailiffs, the second for stewards or factors, and the third for the sons of wealthy proprietors. There are an extensive farm and spacious courts of farm-buildings, containing a Swiss dairy, supplied by upwards of a hundred cows; a great many oxen, horses, and Merino sheep; a brewery, machinery for cutting straw, extracting sugar from field beet, an experimental laboratory for examining soils, lecture room, &c., but of which we must defer the account for the present. There is a Horticultural Society, which has an extensive garden at Frauendorf, at two days' journey from Munich; it is under the direction of M. Prince, who publishes a *Garden Gazette* weekly, and the *Orchardist's Friend* monthly. We have as yet only seen the publications.

We cannot spare time to say much as to the gardens here, though we shall have a great deal to state hereafter. In the practice of landscape-gardening, as we have already observed, the Bavarians are decidedly our masters; that is, they have carried completely and extensively into execution on the ground what Wheatley, Mason, Price, and, we may be permitted to add, after them, ourselves (*Obs. on Landscape-Gardening*, 1804, &c., to *Encyc. of Gard.*, art. Landscape-Gardening, 1822), have only been able to describe in books.* With respect to gardening as an art of culture, we are convinced that the gardeners here are in advance of us in the art of preserving ornamental plants and culinary vegetables through the winter. For this, however, English gardeners are not at all to be blamed, the happy climate of their country not requiring much exertion in this way. The principal means of preservation made use of are, cellars deeply sunk in the ground, for the preservation of culinary vegetables, which are there planted on shelves of earth; coverings of straw mats and of thick boards, for pits and frames; and opaque roofs, and coverings of straw mats, for the front glass of hot-houses of every description. It is astonishing in how few minutes a range of hot-houses, of two or three hundred feet in length, is covered with straw mats, or uncovered. Messrs. Loddiges' immense palm-house would not occupy more than ten minutes. We have more than once stated it as our opinion, that these coverings ought to be every where adopted in England.

* The truth is, in a commercial country like England, where every thing and every body is estimated with reference to wealth, to be able to introduce any new system into practical use, it is necessary for the innovator to be wealthy, or supported by some man of wealth. Since 1804, we have given numerous designs for laying out grounds, in which, in the working plans, the plantations were directed to be made in masses of one kind, blending into masses of another kind, as in natural forests, as recommended by Mr. Price, and as practised by M. Sckell; but, as the execution of these plans has always been more or less left to the routine practice of the gardener or forester, or by some means or other out of our control, the trees, with no marked exception that we can at present recollect, have always been more or less mixed. Sometimes the necessity of nurse trees has been alleged as an excuse for mixture; but when trees are in masses of one kind, we have shown (*Treatise on Country Residences*, 1806) that they nurse one another in a much more effectual and safe manner than when mixed; but, even if this were denied, surely, where effect is the object, something might be sacrificed to it. We wish all those of our employers who have rejected this part of our plans, would come here and view the scenery created by M. Sckell; they would then see what they have lost.

But the most remarkable practice which we have seen here, and one which, if there is not something adverse in the climate of England, will, we have no doubt, be adopted there to a certain extent, is the manner of cultivating pine-apples practised by M. Lang, the kitchen-gardener of the court at Nymphenburg. His object was to imitate the pine-apple culture of the West Indies. For this purpose he turned out two-year-old plants in a bed of earth with a stratum of rotten dung below, in a flued pit, and there they have remained between three and four years, giving a perpetual succession of fruit. The first crop was produced the second year, from the centre of what may be called the mother plants; the second crop the third year from the suckers of the third year still on the plants; and the third crop from suckers produced by the suckers of the first year, and by other suckers direct from the mother plants. The pit of plants is at this time covered with several hundreds of fruit, in every stage, from the first appearance to ripeness. They are small, but one stool has from three to six, or more; so that the total weight produced on a given surface of ground, in a given time, is perhaps more than by the ordinary mode of culture. The plants were placed in the bed 1 ft. apart every way, so that with their numerous suckers they now form one impenetrable mass of foliage and fruit. The renewal of the plants and the bed is contemplated in a year or two, agreeably to the practice in tropical countries. More minute details are promised us by M. Lang, and will appear in a future Number. We fear, however, that the success of this plan depends, to a certain extent, on the great heat of summer, and the clear sky and dry air of the winter, in this elevated and cold situation. It is certain that the dryness of the air here is the reason why the leaves of plants in hot-houses, and of cabbages and endive in cellars, do not damp off so much during winter, as they do with the mild humid air of England.

We had almost forgotten to notice an improvement in domestic economy which M. Hazzi has introduced here among the bakers, viz. the use of a kneading-machine; it is also used by a number of bakers in Paris, and, we hope, for the reputation of England in respect to cleanliness, it will soon become general there. It is very simple and cheap, and requires no art in the use. We recommend the subject to the Society of Arts; Mr. Gill, and the editor of the *Mechanic's Magazine* have, we believe, already noticed this machine, which is described and figured in the *Dictionnaire Technologique*. There is also another improvement contemplated here, which well deserves the attention of France. It is intended to oblige all those who keep public inns, hotels, lodging-houses, coffee-houses, eating-houses, or even common public houses, instead of paying a small license, as at present, to establish *des lieux inodores*, and *lieux extérieurs à l'eau*. This would be a very great improvement in Germany, and still more so in France, where the state of things in this department of domestic arrangement is disgraceful to civilised society. The subject deserves the attention of the patriotic individuals of both nations, for many reasons, and for one among others, because personal cleanliness is known to lead to purity of mind and conduct. England also, though incomparably superior to the Continent in respect to the above arrangements, yet admits of some improvement, and we think a Bramah, and a *lieu à l'eau* ought to be made the whole, or a part of the license of every house of public entertainment. Not to have stated these matters in a Journal devoted to domestic as well as to rural improvement would, we conceive, have been improper.

We have paid a good deal of attention to the arrangement of churchyards, in our progress from Dieppe to this place, and on some future occasion we shall have to suggest several improvements in the arrangement of those of England. Nothing could be easier than to render every country churchyard in Britain an arboretum and herbaceous ground, with all the trees and plants named, provided the clergyman would give up his right to the grass, which

with all weeds must be destroyed, and the grave-digger would be content to acquire a very little knowledge of gardening. By laying a burying-ground out in beds of two graves in width, or about 16 ft., as at Nancy, planting the trees along the walks, and the rows of herbaceous plants across the beds, and parallel to and between the graves, the thing is done.

The botanic garden here is rich in Brazilian plants, and altogether contains nearly double the number of species actually existing in the garden at Kew. It is under the direction of the celebrated Dr. Martius, well known for his travels in Brazil, and other works on the natural history of that country. We were extremely sorry to hear from this learned, most amiable, and highly esteemed man, that not a single copy of any of his different publications on Brazil has yet been sold in England, though they are all to be had from Messrs. Treuttel and Wurtz, in Soho Square, London. We believe this circumstance must be owing to the ignorance of the patrons of science that such works exist.

The vegetable market here is well supplied, and at remarkably cheap rates. The principal articles of the cabbage tribe are, white and red cabbage, white and red kohl rabi, white and red German greens, and a few cauliflowers; no green legumes, but abundance of ripe kidneybeans, and also lentils and peas; potatoes of three or four different sorts, long carrot-shaped white turnip, round white turnip, ruta-baga, and the Teltower rüben, here very black-skinned, and known as the Bavarian rüben; carrots, parsneps, salsify, scorzonera, beet, black and red radishes, and horseradish; spinach, common and French sorrel, onions of different sorts, leeks, garlic, shallots, chives, &c.; lettuce and blanched endive in immense quantities; common and Hamburgh parsley, bulbous-rooted celery, sage, rue, thyme, marjoram, winter savory, and dried bay leaves. The fruits were chiefly apples and pears, the production of the country, and, next, grapes, brought from Tyrol and the Rhine; an immense quantity of Quetsche plums; medlars, quinces, and even some peaches and pomegranates; walnuts, chestnuts, dried pears, plums, and cherries; elder berries, which are dressed along with Quetsche plums; barberries for colouring vinegar; privet berries and sprigs of *Euonymus europæus*, with the arillus attached, for decorating tombs; dog-hips, the flesh used for making sauce for game, and the seeds for burning and using as coffee, the drink so made being considered an antidote to the gravel. The flowers were stocks, marigolds, and annual chrysanthemums. There were wreaths of moss and box, leaves of striped *Arundo*, bundles of the tops of *Equisetum arvense*, and plaited stalks of *E. hyemale* (the Dutch rush of London), both used for scouring saucepans and glass beer pots; brushes and heath brooms made of *Lycopodium clavatum*, stuck in in the manner of bristles; snails and thighs of frogs; *Agaricus muscaria*, a red-coloured poisonous mushroom, which is here bruised in milk, and the mixture set in rooms to destroy flies. By the Tartars and others this fungus is eaten, to procure the pleasures of intoxication. Swedish and other turnips, cut into slices, like sauerkraut, &c. The fruits of the Rhine and the Tyrol are brought in baskets on the backs of the peasants, who walk that immense distance, and yet can afford to sell them at remarkably low prices. A bunch of black and one of white grapes, three peaches, and a pomegranate, cost about 6d. The apples, pears, and plums, like every other production of Bavaria, are proportionately low; Munich being, it is believed, the cheapest city in Germany for the necessaries of life.

We cannot close this letter without saying something as to the architecture of Munich, though we fear we shall be accused of partiality when we state that art to be exhibited in a much more pure and perfect state here than in London. The number of bad public buildings to the good, in London, is perhaps as 10 to 1; in the recently built churches it is at least as 15 to 1. Here we do not think the proportion of bad elevations to good, is more than as 1 to 10. No such laboured compositions would be toler-

ated here as Grosvenor Palace; nor one in which the columns were employed as ornaments, as against the arches of the new entrance into Hyde Park, or purely for effect, even to the darkening of the windows, as in the new Treasury; nor a multitude of parts and petty details, as in Buckingham Palace, though a high roof, as in York House, would perhaps be admitted, for this is one of the defects of Continental architects. The progress of art is from complexity to simplicity, and to the latter point the architects of Munich seem to have attained more generally than those of England, avoiding at the same time that meagre baldness which detracts so much from the effect of the Quadrant in Regent Street, viewed in connection with the houses over it. We are far from saying that there are not many, even a great many, nobler buildings and parks and gardens in England, than there are in Germany, or perhaps in the whole of the Continent taken together; we merely state what we consider to be the proportion of bad to good buildings there and in Britain, and assert, without the slightest fear of being found wrong, that, in proportion to the existing wealth of the two countries, the taste for architecture on the Continent is decidedly more pure than it is in England. There almost every private building shows that the wealth is greater than the taste; while, on the Continent, the glaring deformity of high roofs and garret windows crowning elevations of simple and elegant design, show that the taste of the architect has to contend with the poverty of the inhabitant.

We shall hereafter prove what we have asserted in this letter, as to the landscape-gardening and architecture of Bavaria, by plans and elevations; in the mean time, we cannot help stating, that when we compare Hyde Park, by recollection, and the Regent's Park, with the Park here; and the grounds connected with Buckingham Palace, with those of Nymphenburg; we feel ashamed for the state of landscape-gardening in the country which gave birth to that art. When we think of the paltry botanic garden of Kew and the botanic gardens of Paris and Berlin, we feel less regret, because botany is not with us a national science, as landscape-gardening is a national art. We know very well that these observations will not be very well received by some of our countrymen; but, believing them to be founded on truth, and calculated for the public benefit, and knowing also that those whom we consider the most competent to judge will agree with us in opinion, we leave them to work their way with whoever may peruse them. We shall be content, as to our remarks on architecture, to have them judged by Mr. Wilkins, and those on landscape-gardening by Sir Uvedale Price.—*Cond.*

SWITZERLAND.

The Horn of the Alps is employed in the mountainous districts of Switzerland, not solely to sound the call, but for another purpose, solemn and religious. As soon as the sun has disappeared in the valleys, and its last rays are just glimmering on the snowy summits of the mountains, then the herdsman on the loftiest of them takes his horn and trumpets forth "Praise God the Lord;" all the herds in the neighbourhood, on hearing this, come out of their huts, take their horns, and repeat the words. This often goes on for a quarter of an hour; whilst, on all sides, the mountains echo the name of God. A profound and solemn silence follows; every individual offers his prayers on bended knees and with uncovered head. By this time it is quite dark; "Good night," trumpets forth the herdsman on the loftiest summit; "Good night" is repeated on all the mountains from the horns of the herdsmen and clefts of the rocks; then each lays himself down to rest. (*Reichard.*)

Dairy Caves. — There are several natural and artificial cold caves in the Cantons and Rhetian Alps used as dairies. These were examined by Professor Pictet, with a view to ascertain what was the cause of their temperature being so much below that of the district in which they are. At Chiavenna, where they are called *cantines*, they rest against a rock, whence

issues a current of air, which, in August, at noon, was 45° Fahr., while the external air was at 70° . On the banks of the Lake of Lucerne, and at the foot of one of the bases of Mount Pilate, are little wooden huts (except the back wall of stone), used as cold caves. On the 31st of July the heat in the shade was 73.2° , and within the huts 39.4° . Milk could be kept for three weeks, meat for a month, and cherries for twelve months. In one hut snow was preserved all summer. (*For. Rev. and Cont. Misc.*)

DENMARK.

Frederiksdal (fig. 185.) is a spot possessing much natural beauty, and if it has not been improved, neither has it been injured, by art. It forms one of the finest views from the hill of Sorgenfrie. The gardens of Rosenborg are not now so extensive by one third as they were in the days of Christian IV.; they have lately been modernised, and recall to mind the beauties

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of English landscape-gardening. Amager Island is the kitchen-garden of Copenhagen; it was peopled by a Flemish colony in the 16th century, who still retain their old dress, and many of their peculiar customs. Frederiksborg is approached by an avenue of four rows of lofty lime trees, lining a broad carriage road in the centre, and forming on each side a spacious walk for pedestrians, with a narrower path, edging the exterior lines of the trees. The gardens were laid out in the English style, by the late M. Voigt, who had to work upon a dead level of no great extent. Dr. Clarke published a description of these gardens twenty years after he had seen them, and hence they appear in his book as in the ancient style; but the fact is, they were rearranged in the modern taste the year after the Doctor saw them. When Belzoni saw them, in 1822, he exclaimed, "Bless me, how much this is like England!" (*Foldborg's Denmark.*)

Jagerpræst is an old royal seat, on a finely wooded isthmus. Here is an oak supposed to be one thousand years old; the trunk is about six yards in height, and sixteen yards in circumference. Although nearly excavated, it still displays a luxuriant top, and the branches, which extend all round to a distance of 10 yards, are of the size of considerable trees. Four peasants on horseback once found room in its cavity, and eighteen men on foot at another time. This phenomenon stands in a moist and mouldy soil, surrounded by magnificent beeches and oaks, which afford good shelter to the sire of the forest.

In the gardens of Jägerspriis a beech tree also forms a very curious object; its branches have been bent backwards to the ground, and fastened to circular trellises; thus producing a beautiful arbour, impenetrable to rain and heat. This beech is said once to have accommodated a king and eighty courtiers at dinner.

RUSSIA.

Mode of extracting Turpentine and Resin from the Roots of Pine and Fir Trees.—Cut them in pieces from about 1 to 2 in. long, and about 3 in. thick; boil them in water; take them out and dry them; put them in a cast-iron boiler, having a spout below, covered close with an iron lid, and surrounded by sand or brickwork; light a fire of branches under the boiler, and in a short time afterwards the resin will be found running from the tube. The turpentine floats on the water after the boiling, and is skimmed off. The charcoal which remains, after the resin is extracted, is of the best quality. (*Journ. d'Agr. de Moscou*, No. x., 1824.) Resin is much used in Russia by the peasants as a substitute for oil.

NORTH AMERICA.

The Horticultural Society of Pennsylvania have offered premiums for the culture of *Crámbe marítima*, which you will be surprised to learn does not grow in Pennsylvania, although it is cultivated in Connecticut. If you or any of your friends could send us a few seeds of this or any other new and useful vegetable, you would greatly oblige us; you might send them through your booksellers with the Magazine. — *J. M. Philadelphia*, June 7. 1828.

Such of our correspondents as have leisure and a few spare seeds, have now an opportunity of employing both in a manner that will contribute to the advantage of their brethren in America, and open a source of gratification for themselves. If the seeds and letters be sent to us, we shall take care of them.

Botanic Garden of St. Vincent.—The higher and hilly parts of this garden are clothed with a dense forest of useful woods, fruits, and palms, the bottom is the only part which has the least resemblance to the formal arrangement of a European garden. Here nature is unconfined, and this beautiful wilderness is, without doubt, the most charming residence of Flora in all her domains. A noble avenue, intercepted only by a single towering palm (*Arèca Câtechu*), runs from the house to the bottom, giving a view of the bay, the town, and a group of smaller islands within the government. A narrow walk leads the stranger round the bounds of this tropical nursery, and at the bottom affords a sight of the bold blue outlines of the noble mountain which terminates the landscape.

Dr. Anderson having already published a list of the plants, I shall only notice a few of the most remarkable, not in order to give even the outline of a Flora, but to enable the botanic reader to form an idea of the physiognomy of the ground, and aspects of the vegetation.

The higher division, crowded with trees of larger growth, is perhaps most calculated to interest the European visitor. If he derives any pleasure from the beauties of picturesque scenery, on entering the silence of this solitude, he will be scarcely able to define what most excites his admiration, the individual beauty and contrast of the forms, or that eternal spring and luxuriance of vegetable life which reign around. Nature here appears prodigal of organic matter. The ground seems overloaded with plants, which have barely room enough for their developement. The trunks of the older trees are every where covered with a thick drapery of ferns, mosses, and orchideous plants, which diffuse into the air the richest odours, and almost conceal from sight the noble plant that upholds them. Their growth is favoured by the great moisture of the air; and these pretty parasites,

sheltered from the direct rays of the sun, are seen ascending on every side even the large branches. So great is the variety of vegetable beauties which sometimes decorate a single trunk, that a considerable space, in a European garden, would be required to contain them. Several rivulets of the purest water urge their meandering course through the brushwood: various plants of humbler growth, which love humidity, display their beautiful verdure on the edges, and are sheltered by the wider-spreading arms of the mango (*Mangifera indica*), mahogany (*Swietenia Mahogany*), teak (*Tectona grandis*), *Mimosa Lébbek*, nilótica, *Catéchu*, &c., and other woods remarkable for their stateliness, and clothed in wild and magnificent pomp. The vegetation every where displays that vigorous aspect and brightness of colour so characteristic of the tropics. Here and there, as if for contrast, huge masses of trap, blackened by the action of the atmosphere and decayed *Tremellæ*, present themselves. Those blocks which in colder climates would be doomed to eternal barrenness, or at most would only nourish the pale and sickly *Lichen*, here give support to creeping plants of every form and colour, which cover, with yellow, green, and crimson, the sides of the sable rock. In their crevices the succulent species are daily renewed, and prepare a soil for larger tenants; from their summits the old man's beard, the *Rhípsalis*, and similar weeds, which seem to draw their nourishment from the air, hang pendent, floating like tattered drapery at the pleasure of the winds. At a distance is seen the trumpet tree (of Brown), whose leaves seem made of silver plates, as the blast reverses them in the beams of the mid-day sun. In a solitary spot rises a wild fig tree, one of the gigantic productions of the torrid zone. Nature in her playful moment had decked this scene for her amusement, and some retiring thoughtful scholar, on the massive ribs which, like the buttresses of a tower, support the base, has painted, in large white characters, the names of her favourite muses. All the beauties which nature has lavished on the equinoctial regions are here displayed in their fairest and most majestic forms. Above the rocky summit of the hill the arborescent ferns (*Cyathæa áspera*? *arborea*, &c.), the principal ornaments of our scenery, appear at intervals. *Convólvuli* and other creepers have climbed their high stems, and suspended their painted garlands. The fruits of our country are scattered around within our reach, and the wide green leaves of the *Mûsa paradisiaca* and *sapiéntum* and *Heli-cônia caribæa* and *Bihai*, planted beneath, serve to contain them for our refreshment, and to convey water from the neighbouring spring. On every side innumerable palms, of various genera, whose leaves curl like plumes, shoot up majestically their bare and even columns above the wood. The portion below the house of the superintendent has been devoted to the reception of the spices, the medicinal, and other more useful plants, which are placed in situations most favourable to their growth, rather than with a view to scientific order. In the same group are seen the precious nutmeg (*Myristica officinális*) exposing, in the centre of its bursting drupe, the seed surrounded by the crimson mace; the *Cássia fistula* with its pendent pods of curious length; the magnificent *Lagerstrœmia reginæ* displaying one extended sheet of lovely blossoms; the *Lécythis bracteata*, with its sweet and painted blossoms, scattering its fetid fruit, so much resembling the fatal shell, that one might suppose a company of artillery had bivouacked in its shade; the calabash, with its large green pericarp, so useful in the poor man's hut; and the screw pine, with its fruit carved in rude and curious workmanship, and its ribbed stem supported on a bundle of faggots. Assembled together are the various fruits transplanted from the islands of Asia and other distant lands, or the nations of the Antilles, attracting, by their nectared flowers, the gaudy humming-birds. You behold the bread fruit of the Friendly Islands, the most precious gift of Pomona, and the Jack of India (*Artocarpus integrifolia*) bearing its ponderous fruit of the weight of 60 or 70 lbs. on the trunk and arms, huge deformities for the lap of Flora.

Here too a stunted cork tree and a small European oak sadly contrast their sickly forms with the proud offspring of the tropics. The vanilla (*Epidendrum Vanilla*) with its long suckers, the black pepper (*Piper nigrum*) of Asia, hang suspended on the boughs; the gaudy blossoms of the *Passiflora* and long tubes of the *Solandra* appear amidst the wood, mingling their blossoms with those of the neighbouring trees in wild confusion; while, at intervals, the *Agave vivipara* throws up its princely column of fructification from a host of spears. Innumerable *Cacti* and *Euphorbiae* covered with fruit or flowers, differing in the articulations of their stems, the number of their ribs, and the disposition of their spiculæ, give variety to the scene. At every step, plants, remarkable for their beauty or fragrance, ornament your path. But I should tire the reader by continuing to enumerate the vegetable wonders of this paradise. In proper beds, prepared for them, we meet with the useful herbaceous species, or the vegetables with which our tables are supplied. By the side of every rivulet rise large clusters of the bamboo, without a doubt the most generally useful of our plants. Nothing can exceed the beauty of this arborescent gramen, which rises to the height of 60 or 80 ft., waving its light and graceful foliage at every breath of wind. The *Cycas revoluta* and several kindred plants, so valuable for their nutritious fecula, are scattered about, attaining their greatest height in spots where nothing is allowed to impede their free development.

South American Clover. — At a late Meeting of the members of the Lyceum of Natural History at New York, there were presented many specimens of natural history, among which was some clover seed from the country surrounding Mexico, where, owing to the favourable nature of the soil and climate, the clover attains a growth of 4 ft. in the space of thirty days from the time of sowing the seed. (*Scotsman*, April 2.)

ASIA.

Ghazeepoon is celebrated throughout India, for the beauty and extent of its rose gardens; the rose fields occupy many hundred acres; the roses are cultivated for distillation, and for making attar. The price of a sieve, or 2 lbs. weight (a large quart), of the best rose-water, is 8 linas, or a shilling. The attar is obtained after the rose-water is made, by setting it out during the night, until sunrise, in large open vessels exposed to the air, and then skimming off the essential oil which floats on the top. To produce one rupee's weight of attar, 200,000 well-grown roses are required. The juice, even on the spot, is extravagantly dear, a rupee's weight being sold at the bazaar (where it is often adulterated with sandal-wood oil) for 80 s. r., and at the English warehouse for 100 s. r., or 10% sterling. Mr. Melville, who made some for himself, said he calculated that the rent of the land, and price of utensils, really cost him 5% for the above quantity. (*Bishop Heber's Narrative*, p. 266.)

A Tree of a new Genus, called, by Dr. Wallich, *Amherstia nobilis*, has been discovered in the provinces recently ceded to us by the Burmese. It grows to the height of about 40 ft., and bears large pendulous pannicles of vermilion blossoms, forming an object, the splendour of which is unrivalled in the Flora of India, or perhaps of any country. The Burmans call the tree *Thoka*, and the flowers are offered to the images of their saints. (*Ipswich Journ.*, Aug. 2.)

AUSTRALASIA.

Fruits of New South Wales. — The following account of the fruits of New South Wales, is extracted from *Two Years in New South Wales*, by P. Cunningham, Surgeon, R.N., a work recently published, which contains a great fund of useful and amusing information concerning that colony: —

"Of native fruits we possess raspberries, equal in flavour to, and not other-

wise distinguishable from, the English. They grow plentifully on the alluvial banks of Hunter's River, and supply a yearly Christmas feast to the birds. Our native currants are strongly acidulous, like the cranberry, and make an excellent preserve when mixed with the raspberry. They grow on low shrubs, not higher than the whortleberry bush. Our cherries are destitute both of pleasant taste and flavour, and have the stone adhering to the outside. Our native pears are tolerably tempting to the look, but defy both mastication and digestion, being the pendulous seed-pods of a tree here, and their outer husks of such a hard woody consistence, as to put the edge of even a well-tempered knife to proof of its qualities in slicing them down. The burwan is a nut relished by our natives, who prepare it by roasting and immersion in a running stream, to free it from its poisonous qualities. The fibbong is another tasteless fruit, as well as the *five-corners*, much relished by children. The wild potato strongly resembles the species now in use in Europe, but the stem and leaf are essentially different. It grows on the loose, flooded, alluvial margins of the rivers, and at one period of the year composes the chief sustenance of the natives, having the watery look and taste of the yam.

“ Of foreign fruits now climatised, we possess a great variety. Here are oranges, lemons, citrons, nectarines, apricots, peaches, plums, cherries, figs, loquats, granadillas, quinces, pears, apples, mulberries, pomegranates, grapes, olives, raspberries, strawberries, bananas, guavas, pine-apples, and English and Cape gooseberries and currants. Of shell fruits, we have the almond, walnut, chestnut, and filbert; and of other garden fruits, strawberries, melons, peppers, &c.

“ Many of the small class of settlers derive a handsome income from the proceeds of their gardens and orchards, but still this point is too little attended to by our colonists generally, and many of our fruits are, consequently, still both scarce and dear. I have never seen oranges selling for less than a shilling a dozen; while, a great part of the year, they are double and treble this price, and not even to be had at all for some portion of the season. Peaches, nectarines, and apricots are most abundant; and, when pains are taken in their cultivation, most delicious too; but the greater portion of those offered for sale, being the produce of seedlings, are generally hard, tasteless, and noways so tempting as to induce you to try their flavour a second time. Of apples we have considerable variety, many of them most excellent; while the pears you see for sale are generally of a large size, and similar in look and taste to those of Madeira, rich, mellow, and juicy. The bananas and guavas come only to perfection in low sheltered places near the sea; and, in Captain Piper's garden at Eliza Point, I have tasted them quite equal to those of the tropics. Pine-apples require the aid of a frame for their filling out and ripening. Gooseberries and currants are not produced in the low land, the bushes all running to wood; but, in the cold mountainous districts of Bathurst and Argyle, these fruits make near approaches to perfection. The Cape gooseberry, however, forms a good substitute to the lowlanders for the others. Grapes flourish luxuriantly, but are very liable to the blight, particularly the white ones, if not shaded from the sun and westerly winds. Sir John Jamison considers this blight to be occasioned by a concentration of the sun's rays by the dewdrop, as by a lens; upon the grape, which is thus scorched, and decays rapidly, a series of black specks spreading over it. I cannot myself see how these rays can produce this effect, because the dew is always evaporated before they have much power; while they could only affect the eastern side of the grape-bunch, or, indeed, of the vine, the western being secure therefrom till the dew converts into vapour. This blight is, more likely, attributable to the winds shifting suddenly from hot to cold, or to the sun heating the grapes so much the more during the day, if unshaded; and thus, from their being too hot at night, they admit the cold air and dew to have a proportionally stronger

effect upon them. This supposition seems to derive support from the white grape being more liable to blight than the black, inasmuch as we know that dark bodies both receive heat and part with it more readily than light-coloured; therefore, though the white grapes would be longer in imbibing the same portion of heat, they would retain it longer, and, consequently, feel the effects of the chill air more. Possibly, however, this blight may be partly owing also to the heat penetrating the white grape with greater difficulty; for while in the black grape it would pass readily on among the juices, and thus expand the whole of the fruit equally, in the white it would, from its difficulty of penetrating, accumulate to a greater degree on the outside, and thus destroy the texture of the husk. Several spirited gentlemen here are endeavouring to supply us with a vinous beverage, from grapes of our own growth. Mr. Gregory Blaxland, who stands foremost on the list, has six and a half pipes of Australian wine this year, to fill his cellar with; while Mr. John Macarthur, and Dr. Townson, the celebrated author of *Travels in Hungary*, are both making zealous efforts in the same way. The wine hitherto manufactured resembles Sauterne in taste and appearance; and a very pleasant wine, generally speaking, it is for a warm climate, from its agreeable and refreshing acidity. Fine preserves are made from our raspberries, quinces, and figs, while our bitter oranges afford us mountains of marmalade, speaking in breakfast-table comparison. Almonds are now pretty abundant; and from these, and raisins of your own growth, you may supply your dessert without observing a single *dump** in the grocer's bill on that account. In fact, I hope that both both raisins and wine will be, before other twenty years pass by, ranked among our exports, instead of being, as now, among our imports. Olives are now much attended to, the most successful propagator being Mr. H. Macarthur, who has reared a great variety from slips and layers." (*Scotsman*, July 25.)

ART. II. Domestic Notices.

ENGLAND.

THE seasoning of Timber has hitherto been effected by evaporating the sap, or fluid matter, by the action of the warmth and air of the atmosphere; screening the timber, at the same time, from the direct action of the sun, which, by drying it too rapidly, occasions twisting and renting. The time occupied is from three to five years. Mr. Langton, of Jermyn Street, has discovered a method of seasoning timber, by removing part of the atmospheric pressure, and applying artificial heat. Mr. Tredgold, the eminent engineer, has given it as his opinion, that this new process will effect its object most completely in as many weeks as the common process requires years, at an expense not exceeding 10s. per load, with the advantage of setting free at least half the capital required by the common method; "of rendering it unnecessary to spoil a good ship, by the use of wood full of its natural sap; and the still greater advantage of rendering the living tree available either for defence, convenience, or common use, in a few weeks after being felled, and in a state in which it may be trusted with safety; while, by the usual method, five years is not more than is necessary, to be equally free of risk from shrinking and decay." A discovery so spoken of by such a man as Mr. Tredgold, is likely to lead to the most important consequences in every department of carpentry. One result will probably be the disappearance of the dry rot. The first thing to be done is to contrive

* The genuine name of an Australian coin, value 1s. 3d.

the most suitable apparatus for removing the atmospheric pressure, and we hope these will be produced at such a price as to be within the means of every country carpenter. Some details of this process will be found in the *Mechanic's Magazine* for June last, and we shall not lose sight of such farther improvements as may be made.

Uses of the Sunflower. — All kinds of poultry fatten on the seeds; and the leaves, green or dried, are eaten by most ruminating animals as grass or hay. In Portugal, bread, and likewise a kind of groats, are made of the seeds; in some parts of America they roast the seeds, and use them as coffee. The whole plant exudes a thin odorous resin. They might be judiciously planted in front of the apiary among borage, which, of all other plants, is the most essential to bees' culture. Any one who has seen them ignorantly planted on vine or other fruit tree borders (the sunflower leaves perspire more matter than any other plant known to exist) will conclude that they like a strong rich soil. (*James Housman in Newcastle Courant.*)

Indian Corn. — Mr. Cobbett is making an attempt to introduce in England the cultivation of Indian corn, for which the farmers have hitherto considered the climate too cold and damp. He has a field of it at his farm of Barn Elm, near the suspension bridge leading to Hammersmith. Notwithstanding the bad season, Mr. Cobbett anticipates that his corn will ripen in about a month. It is a *dwarf* kind, more hardy and productive than the common Indian corn grown in America. (*York Courant*, Sept. 9.) The greater part of it has since been successfully harvested, yielding, at the least, 95 bushels to the acre.

Large Mushroom. — A few days ago, a mushroom was gathered in the neighbourhood of Blyth, which measured 34 in. in circumference, and weighed 1 lb. On Saturday last, a mushroom, measuring 2 ft. 5½ in. in circumference, and weighing 1 lb. 1 oz., was gathered in a field at the Garden House, near Chester-le-Street. (*Newcastle Courant*, Sept. 13.)

Increase from a single self-planted Potato. — I this morning got from Mr. Lam, of this town, fifty-two fine potatoes, which he had taken from one single plant which had been accidentally left in the ground last year. The fibres had extended from the old potato nearly 3 ft.; which made the new potatoes, which were fifty-two in number, a fine size. I placed them end to end, and they measured 12 ft. long, and weighed 13½ lbs. when cleaned. They are of the Broad Kidney kind, and I shall reserve them for seed. I remain, yours. &c. — *M. Saul. Sulyard Street, Lancaster, Sept. 11. 1828.*

Asparagus. — It is now fully ascertained that this favourite vegetable may be forced on permanent beds, in the open garden, with the utmost success. Our valued correspondent, M. Lindegaard, some time since informed the world how this was done by him (Vol. I. p. 173.), and we have, in p. 360, given a communication on the subject from our correspondent, Mr. D. Spiers, stating that it has been practised in Lancashire for several years.

Method of burning Lime without Kilns. — The practice of lime-burners in Wales was, formerly, to burn lime in broad shallow kilns, but in some parts they now manufacture that article without any kiln at all. They place the limestone in large bodies, which are called coaks, the stones not being broken small as in the ordinary method, and calcine these heaps in the way used for preparing charcoal. To prevent the flame from bursting out at the top and sides of these heaps, turf and earth are placed against them, and the aperture partially closed. The heat is regulated and transfused through the whole mass, so that, notwithstanding the increased size of the stones, the whole becomes thoroughly calcined. As a proof (?) of the superior advantage that lime burnt in these clamps or coaks has over that burnt in the old method, when farmers have an opportunity of taking either lime at the same price, a preference is invariably given to that burnt in heaps. This practice has long prevailed in Yorkshire and Shropshire, and is known in Scotland. (*New Monthly Mag.*, No. xviii. p. 382.)

SCOTLAND.

New or rare Plants which have flowered in the Neighbourhood of Edinburgh, and chiefly in the Royal Botanic Garden, during the last three months:— *Calceolària arachnoidèa*, *connàta*, and *thyrsiflòra*; *Collòmia grandiflòra* and *lineàris*, *Crotalària angulòsa*, *Eùtoca Franklínii*, *Geranium carolinianum*, *Líparis Correàna*, *Petùnia acuminàta*, *Podólepis gràcilis*, *Sisymbrium brachycàrpon* and *canescens*, *Trachymène cærùlea*, and *Vil-làrsia lacunòsa*.

Edinburgh Horticultural Society.— At the Meeting of the Caledonian Horticultural Society, on the 21st of August, thirty-five sorts of seedling gooseberries were produced, chiefly raised from the Sulphur, Ironmonger, and Warrington, at Whitehill, near Lasswade; seed sown in 1824, and the berries sent from the original seedling bushes. The whole having been carefully examined, nine of the sorts were judged good, but two were more especially preferred, a very rough white and a rough yellow kind. The meeting judging it right to encourage such zeal in raising seedling fruits, awarded the Society's silver medal to Mr. David White, gardener to Colonel Ramsay at Whitehill. (*Scotsman*, Aug. 23.)

Dundee Horticultural Society.— The Annual Festival Meeting of this Society was held on September 12., when a rich display of flowers, fruits, and vegetables was brought forward to the competition. The premiums were adjudged as follows:— Flake and Bizard Carnations: 1. Mr. W. Anderson, gardener, Cartochy; 2. Mr. J. Smith, gardener, Ellangowan. Picotees: 1. Mr. Thomas Spalding, gardener, Arthurstone; 2. Mr. J. Smith. Seedling Carnations (best variety): 1. Mr. J. Stewart, Dudhope Nursery; 2. Mr. J. Kidd, gardener, Rossie Priory. Double Dahlias: 1. Mr. J. Kidd; 2. Mr. W. Brow, gardener, Meigle House. Single Dahlias: Mr. T. Spalding. Seedlings; Mr. J. Smith. Hollyhocks: Mr. T. Spalding. Stocks: Mr. T. Galloway, gardener, Roseangle. Tender Annuals, and best Bouquet: Mr. J. Kidd. Hardy Annuals (best variety): 1. Mr. Urquhart; 2. Mr. J. Kettle, gardener, Glendoig. (Mr. Orr's first prize for seedling carnations was gained by Mr. J. Kidd, and the second by Mr. J. Stewart.) Pine-apple: 1. Mr. J. Kidd; 2. Mr. J. Young, gardener, Pitfour. Best-flavoured Melon: 1. Mr. J. Kidd; 2. Mr. J. Kettle. Green-fleshed Melon: 1. Mr. T. Watt, gardener, Ruthven House; 2. Mr. W. Anderson. Peaches from open walls: 1. Mr. T. Spalding; 2. Mr. J. Dick, gardener, Ballindean, and for the best variety of peaches. Nectarines from open walls: 1. Mr. J. Young; 2. Mr. J. Dick. Nectarines from hot-house: 1. Mr. J. Dick; 2. Mr. T. Spalding, and for the best apricots. Best assortment of Plums: 1. Mr. A. Smith, gardener, Cunnoquhie; 2. Mr. T. Spalding, and best green gages. White Magnums and Yellow Gages: Mr. J. M'Dougal, gardener, Castle Huntly. Grapes (best variety): 1. Mr. J. Kidd; 2. Mr. J. Dick, and for best muscats, and best black Hamburgs. Frontignacs, and white Muscadines: Mr. J. Kidd. Red Hamburgs: Mr. J. M'Dougal. Largest Jargonelles: 1. Mr. T. Spalding; 2. Mr. Radley, of the Asylum. Pears (best variety): 1. Mr. J. Kidd; 2. Mr. J. M'Dougal. Apples (best variety): 1. Mr. J. Smith; 2. Mr. J. Kettle. Largest apples, best figs, and best variety of fruit for the dinner, Mr. J. Dick; second figs and best variety of vegetables, Mr. J. Kettle; gooseberries, cauliflower, largest carrots, and second variety of vegetables, Mr. D. Mitchell, gardener, Carolina Port; cherries and celery, Mr. T. Spalding; second cauliflower, Mr. W. Anderson; beet, Mr. J. Smith; onions, Mr. W. Brow; cabbage, Mr. Radley; savoys, Mr. J. Dick; and greens, Mr. J. Young.

A very large pine-apple was produced from Cunnoquhie, but, being unripe, lost the prize; a very good melon was produced from Crawford Priory,

reared under a hand-glass in an open border; and a bunch of grapes, with fine large berries, was produced by an amateur in the Nethergate from his little vinery, heated by a baker's oven. A very large gourd, weighing nearly 100 lbs., was produced from Errol Park; a variety of rare esculents from Ballindean; and a beautiful agapanthus from Mr. Alison's garden, Perth Road. Mr. Sang, from Kirkaldy, produced some fruits of the mango (*Psidium Cattleianum*), a stone fruit of recent introduction; they are of the size of small plums, and resemble in taste the fruit of the eatable passion-flower.

Although the day was very unfavourable, a large assemblage of rank and fashion honoured the exhibition with their presence, and appeared highly gratified with the excellence of the various specimens which covered the tables and forms of the hall. (*Dundee Courier*, Sept. 19.)

Dumfries and Galloway Horticultural Society.—The sixteenth Anniversary Meeting of this Society was held on the 18th of September. The report of the judges, with the prizes awarded, being now produced, the Meeting approved of the same; and, the fruit and vegetables being placed on the table, the following prizes were declared:—

Peaches: James Hennan, gardener to His Grace the Duke of Buccleuch, Drumlanrig; also, James Younger, gardener to Wm. Younger, Esq., Craigielands. There were five competitors, but it was difficult to decide between the best two, and ultimately it was agreed to award the same prize to each. Nectarines: 1. Alex. Dickson, gardener to J. M'A. Leny, Esq., of Dalswinton; 2. W. Chalmers, gardener to Mrs. Stott, Castledykes. Red Grapes: 1. James Webster, gardener to J. H. Maxwell, Esq., Munshes; 2. Alex. Dickson, gardener, Dalswinton. Green Grapes: 1. Alex. Dickson; 2. W. Chalmers, gardener, Castledykes. Green gage Plums: A. M'Gillivray, gardener to C. G. S. Menteath, Esq., Closeburn. Melon: W. Chalmers, gardener, Castledykes. Pears: James Cunningham, gardener to W. Stothert, Esq., of Cargen. Apples from the wall: James Cunningham. Apples from standards: 1. A. M'Gillivray, gardener, Closeburn; 2. James Webster, gardener, Munshes; 3. James Younger, gardener, Craigielands. Celery: W. Chalmers, gardener, Castledykes; who also produced a fine basket of salad. Carrots: R. Carson, gardener, Palmerston. A basket of Roseberry strawberries, being the second crop this season, was produced by Thomas Kennedy, Dock Park. Best double dahlias were produced by W. Chalmers and James Hennan. A prize was awarded to James Bogie, gardener to Mrs. Maxwell of Terraughtie, for two bottles of excellent home-made cider. He also produced a fine orange tree, in full fruit, which was much admired. A fine gourd, 60 lbs. weight, was produced by James Cunningham, gardener, Cargen. The articles were, in general, of good quality, but the fruit was deficient in quantity. A very great number of gentlemen and ladies visited the exhibition, and were much gratified with the tasteful manner in which the room was decorated with flowers: it was surrounded with festoons; two splendid crowns were suspended from the ceiling; a number of stars and other devices were displayed; and the name of the Society, formed in flowers, had a good effect. It is proposed to publish the new prize list about Christmas. The subject of the long-projected experimental garden, the formation of which would prove of the first importance as a means of introducing new and rare articles into cultivation in this district, was again taken into consideration; and although it has been approved of, and recommended by the General Meetings for some years past, yet no active measures have been adopted to carry it into effect. It is hoped that the gentlemen of the district, connected with the Society, will come forward, and give such support as will enable the Committee to make some progress in so useful an object in the course of the ensuing year. W. Young Herries, Esq., of Spottes, J. Younger, gardener, Craigielands, and Thomas M'Pherson, painter, were proposed, and duly admitted members of the Society. The following new

office-bearers were chosen :—President: His Grace the Duke of Buccleuch. Vice-Presidents: Viscount Kenmure; Lieut. General Dirom, Mount Annan; J. J. Hope Johnstone, Esq., Raehills; W. Constable Maxwell, Esq., of Nithsdale; Gilbert Young, Esq., of Youngfield; John Napier, Esq., of Mollance; W. Younger, Esq., of Craigielands. W. Grierson, Baitford, secretary; Mr. R. Irving, assistant secretary; Mr. G. Dawson, treasurer; Rev. J. Wightman, chaplain. Council, or Committee of Management: Mr. John Fraser, King's Arms; Mr. Jas. Fergusson, writer; W. M'Lellan, Esq.; the Rev. Dr. Duncan; the Rev. W. Menzies; Mr. John M'Diarmid; Mr. W. Primrose, writer. Gardeners: Messrs. John Learmont, Jas. Cunningham, W. Chalmers, James Bogie, R. Irving, Thomas Kennedy, Thomas Hood, Alex. M'Gillivray.

After the Meeting, a very respectable party dined together in the Grapes Inn; Francis Shortt, Esq., in the chair, supported by the Provost of Dumfries. The dinner and wines were excellent, with a most sumptuous dessert of fruit; and the evening was spent in a manner most pleasant and gratifying to all present. Messrs. Templeton and Edgar delighted the company with many excellent songs. Among the toasts given were, the King; the Duke of Buccleuch, as President of the Society; the Marquess of Queensberry (late president); the Magistrates and Town-Council of Dumfries; memory of the late Alexander Maxwell, of Terraughtie; Viscount Kenmure; Sir R. Lawrie; General Dirom; Mr. Menteath, of Closeburn; the London and Edinburgh Horticultural Societies; the Secretaries of both, Joseph Sabine, Esq., and P. Niel, Esq.; J. C. Loudon, Esq., author of the *Encyclopædia of Gardening*, and conductor of the *Gardener's Magazine*. After dinner were taken into consideration the merits and long and faithful services of George Ross, and a handsome snuff mull voted to Lieutenant-General Dirom, Mount-Annan, to be presented by him to his gardener, who has been in his service above thirty-three years. (*Dumfries Cour.*, Sept. 30.)

The Aberdeenshire Horticultural Society.—The fifth Competition Show of this Society was held on August 28., when the judges awarded the Society's Silver Medal to William Smart, gardener to Dr. Bannerman, Polgownie Lodge, for the best twelve Peaches (the Royal George); the best and second best Jargonelle Pears, twelve of each; and the third best twelve Apples (the Hollandbury). Premiums were at the same time awarded for the best Melon (Purvis Netted Romana); second best Melon (the Wimbledon Green Flesh); second best three bunches of Grapes (the White Muscat and the Black Prince); second best twelve Carnations, various; third best twelve Peaches (the Royal George); third best twelve Jargonelle Pears; third best twelve Plums (the Green Gage and Orleans); and an extra-premium for a large handsome Pine-apple (the Queen's); to John Davidson, gardener to Lord Kennedy, at Dunnottar House. Best twelve Carnations, various; best twelve Double Dahlias, various, Alexander Diack, Mile-End. Best three bunches of Grapes (the Black Hamburg); second best twelve Peaches (the Royal George), Edward Kesson, gardener at Drumtochty. Best and second best Apricots, twelve of each (the Brussels and Moorpark), Sir R. D. Horn Elphinstone. Best twelve Apples (the Oslin); and second best twelve Double Dahlias, various, Alex. Thomson, gardener at Drum. Best and fifth best quart of Gooseberries (the former, Wellington's Glory), James Reid, Springbank. Best twelve Nectarines, William Wales, gardener at Fetteresso Castle. The best twelve Plums, Peter Laing, Raeden. Twelve Pinks, various, Captain John Clyne. Second best twelve Plums, and second best quart of Gooseberries, Charles Berry, gardener at Ury. Third best three bunches of Grapes, and third best quart of Gooseberries, Thomas Milne, Sunnyside. Second best twelve Nectarines (the Roman), John Smart, gardener at Glassel. Second best twelve Apples (the Devonshire Quarrenden), Alex. Brown, gardener at Heathcot. Third best Melon (the Orange Cantaloup), George Johnstone, gardener at Haddo House. Third

best twelve Carnations, various, Alex. Fraser, Ferryhill Nursery. Fourth best quart of Gooseberries, William Chalmers, gardener at Lochhead.

Extra-Premiums were also awarded for a Gourd, and an Essay on the inutility of artificial tyers to Vines and other Climbing Plants, to Dr. Dyce; for a specimen of the *Strelitzia reginæ*, in full flower, to David Young, Esq., Cornhill; for a specimen of the Snake Cucumber, to Alex. Riddel, gardener at Castle Fraser.

Besides the above Prize Fruits, there was a great variety of beautiful and highly flavoured melons, nectarines, apricots, plums, Jargonelle pears, and apples, that were not successful in gaining premiums, but which were mostly left for the dessert; for which also there were sent baskets of fruit from Messrs. Alex. Diack, Thomas Milne, Alex. Thomson, and Alex. Malcolm.

The following gentlemen, as well as several practical gardeners, were admitted members of the Society:—Colonel W. H. Knight Erskine, of Pittodrie; Alex. Webster, Esq., President of the Society of Advocates; and Alex. Stronach, Esq., Advocate.

It is not always that our predictions are so literally fulfilled as upon the occasion of the above Show. Long before the hour announced for opening, so great was the anxiety of the public to obtain admission, that the doors, the staircase, and even the passage to the street, were crammed to suffocation. On entrance being had, the effect was truly imposing; the walls of the hall, to the ceiling, were beautifully decorated with shrubs, both evergreen and flowering, tastefully intermixed with hollyhocks, sunflowers, &c. &c.; the whole furnished by, and put up under the direction of, Mr. Walker. The orchestra also was decorated in a similar manner, and filled by the Aberdeenshire militia band, who played a variety of choice airs. Around the end were placed twelve plants of a singularly large pea, fully 10 ft. high, raised by Mr. George Bothwell, Broadford; the produce, when pulled, exceeded three imperial pecks. In the centre of the hall, the tables were laid out with much taste, and were loaded with fruits of the very finest description, interspersed with some beautiful flowers, supplied from the private green-house of Mr. James Forbes, Broadford. There was also a specimen of the cotton plant, in full pod, raised in the manufactory of Messrs. Forbes, Law, and Co.; and, amongst other curiosities, there was a snake cucumber, nearly 5½ ft. long, from the gardens at Castle Fraser; this singular vegetable had the most correct resemblance to a live snake that anything possibly could have. The Vice-President, Dr. Dyce, also exhibited a curious specimen of a gourd plant, climbing to the height of 9 ft. and supporting itself and fruit merely by its own tendrils, without any artificial tying. This specimen was accompanied by an essay, illustrative of the advantages to be derived from allowing the vine, and other plants of the same nature, to support themselves. Many other beautiful, rare, and curious articles were upon the tables, particularly a plant of the *Strelitzia reginæ*, from the green-house of Mr. Young, Cornhill; and a pine-apple, nearly 5 lbs. weight, from the garden of Lord Kennedy, Dunnottar House. Upon the whole, it was decidedly one of the best exhibitions of the kind we have witnessed, and afforded infinite satisfaction to at least 2000 visitors. From the great interest which is now taken in the shows of this Society, we believe it is in contemplation to hold them in future in the Public Rooms.

At five o'clock, a very numerous and respectable party sat down to an excellent dinner, comprising venison, turtle, and many articles not usually met with; followed by a dessert, such as, under other circumstances, could not possibly be procured; nearly the whole of the fruits competed with, at least all those that had merit, besides others not sent for competition, were placed upon the tables. Several who have travelled in different parts of the world, and others who have been at similar meetings in London and Edinburgh, freely acknowledged that they had never seen anything superior to the dessert, and in but very few instances its equal. The conviviality of the

evening was greatly increased by the excellent singing of Mr. Simpson; and it was not till a late hour that the party separated, each wishing to be present at the next Anniversary. (*Aberdeen Jour.*, Sept. 3.)

Montrose Horticultural Society. — The Annual General Meeting of this Society was held on Sept. 10. The hall was, as usual, tastefully decorated with evergreens and flowers, and the show-tables were covered with every production of the season. The vast assemblage of company that visited the rooms after the show, is a proof of the increasing interest the public take in this institution. We never saw so many of the country gentry present; and we feel certain they will find it their interest, as, we doubt not, it will be their desire, to encourage the Society by every means in their power. The following were the successful competitors for the prizes: — Carnations, Flakes (three, all different): 1. Mr. William Beattie; 2. A. Smith, Rosemount. Carnations, Bizards (three, all different): 1. J. M'Nee, Keithock; 2. A. Smith, Rosemount. Carnations, Selfs (three, all different): A. Smith, Rosemount. Picotees (three): D. Nicol, Charleton. Seedling Picotees: Mr. Hay, Academy, Montrose. Double Dahlias (four, all different): 1. A. Smith, Rosemount; 2. J. Tough, Old Montrose. Single Dahlias (six, all different): 1. D. Nicol, Charleton; 2. A. Smith, Rosemount. Seedling Dahlias (four, all different): J. Tough, Old Montrose. Double Hollyhocks (four, all different): 1. J. M'Nee, Keithock; 2. J. Tough, Old Montrose. Bouquet of Flowers, from open border: 1. A. Smith, Rosemount; 2. D. Nicol, Charleton. Jargonelle Pears (largest six): 1. J. Tough, Old Montrose; 2. A. Smith, Rosemount. Pears (six, all different): 1. A. Smith, Rosemount; 2. J. Tough, Old Montrose. Peaches (six): 1. Mr. Begbie, Rossie; 2. J. Tough, Old Montrose. Peaches from open wall (six): 1. J. M'Nee, Keithock; 2. J. Tough, Old Montrose. Green Gage Plums (six): 1. J. Tough, Old Montrose; 2. J. M'Nee, Keithock. Dessert Apples (six, three kinds): 1. J. Tough, Old Montrose; 2. A. Smith, Rosemount. Apples (six largest): J. Tough, Old Montrose. Morello Cherries (twenty): J. Tough, Old Montrose. Heads of Celery (three): 1. A. Smith, Rosemount; 2. D. Nicol, Charleton. Onions (four): 1. J. Tough, Old Montrose; 2. T. Smart, Usan. Beet Roots (four): 1. T. Smart, Usan; 2. J. Tough, Old Montrose. Carrots (four), 1. Mr. Peter Mathewson, Montrose; 2. A. Smith, Rosemount.

The Society's silver medal for the best wine, from fruits of the growth of Scotland, *without* spirits, was awarded to Miss Sharp, Montrose. The silver medal for the best wine *with* spirits, to Mrs. Greenhill, Old Montrose. The Society's large silver medal was awarded to J. Tough, gardener, Old Montrose, as the most successful competitor during the season. An additional prize was also awarded to J. Tough, for his successful cultivation of gourds. Among the different articles sent by members for show, we observed the passion flower, in great beauty, from Mr. Sharp's and Mr. Walker's green-houses; a rare and delicate vegetable marrow, sent by Mr. Smart of Cairnbank; white beet from Charleton; double dahlias, of superior beauty, from Rosemount; an extraordinary-sized red cabbage, for pickling, from Usan; and the largest onions we ever saw, from Kinblethmont. After the show, the following gentlemen were elected office-bearers for the ensuing year: Sir George Ogilvy, Bart, of Barras, President; Wm. Mudie, Esq., Montrose, Vice-President; Mr. Robert Clark, Mr. William Strachan, Mr. William Beattie, Mr. Robert Walker, Montrose; James Tough, Gardener, Old Montrose; John Begbie, Rossie; Thomas Smart, Usan; Alexander Smith, Rosemount, Members of Committee; and Robert Trail, Esq., Secretary and Treasurer. After the Meeting, the committee, judges, and several of the members, sat down to an excellent dinner in the Star Inn. (*Angus Telegraph*, Sept. 16.)

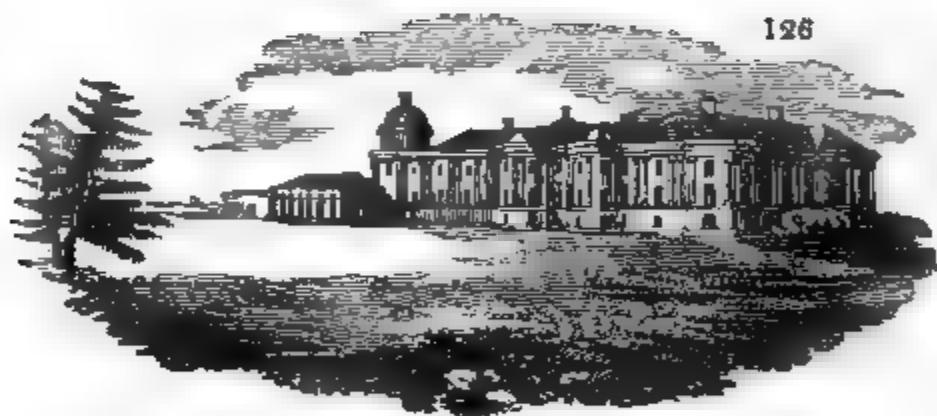
Strawberries are grown in the Vicinity of Edinburgh, in large quantities, for the market, and are reckoned the finest in the world; but it is not the

particular kinds that are esteemed of any consequence, it is the quality and produce that are of the most value; and this, I believe, by proper management, may be obtained from most kinds. In this neighbourhood, growers will, some seasons, when the banks are in good order, and the weather favourable, realise from 60*l.* to 70*l.* an acre; and many of them do not know one kind from another, or even that there are different sorts at all. At first they get a few from some old field, and then propagate them for themselves, until they have enough to make the plantation. Here they are generally planted on sloping banks towards the sun, if possible, in order that the water may not lodge on them in winter, and that they may have the influence of his heat in bringing them to maturity. I have not paid much attention to the culture of this plant hitherto; but from what I see, perhaps it may not be presumption to say, that a strong loamy soil, well trenched and dunged, with a gentle inclination to the south or south-west, is the most eligible for this plant; and that the particular kind cultivated is a mere matter of choice with the grower. (*W. N. S., in a communication to Mr. Saul.*)

The use of ground Bones as Manure, particularly for turnips, is now becoming general in the counties of Angus and Perth, in Scotland. Mr. Watson, of Kieller farm, near Cupar Angus, says: — "The bone manure has been a great blessing to the breeders and feeders of cattle in this district, and, in some instances, saved the industrious tenant from ruin. The severe drought even of 1825 did not prevent a crop of turnips with bones, while all other manures failed; and it was thus the means of bringing through that disastrous winter herds of cattle, which must have otherwise perished for want of fodder." (*Worcester Herald, July 19.*)

IRELAND.

Down Hill House (*fig. 126.*), in the county of Londonderry, was erected in the beginning of the present century. The situation is in the immediate neighbourhood of the sea, and is rather bleak and unfavourable to the growth of timber; but, considered as a marine villa, this accompaniment is not essential. At some distance from the house there are plantations, a mausoleum, ruins, and various picturesque objects.



Entering the eastern glen of Down Hill, you pass the lawn, on either side of which the planting consists of the almost grassy green of the larch, well contrasted with the bluish hue of the pine and Scotch fir. Through this planting nothing can produce a more romantic effect than the tabular, and sometimes almost columnar, basaltic rocks, whose naked protrusions and wild ruggedness prevent the new-mown lawn and decorated slopes from tiring the fancy too much, by the recollection of artificial labour. To the right, over the planting, reigns the majestic mausoleum, which, together with the uppermost fringe of the branches, is projected on the sky, whose clear blue light gives to the eye the exact outline of the columns, the statue, and the dome. Along the same range appear the hay-cocks; and, as

you shift along the continually changeful course of the side banks, the eye catches the ruin of an old chapel, and of the wall enclosing an ancient burying ground. Meanwhile, the right bank bends off to the north, and then gives place to a new swell, which rises to divide the passage towards the north. The southern declivity of this slope is planted, and thus a new outline is given to the remainder of the ravine.

The jutting and retiring curves of the bank are covered with foliage and rocks. The natural channel of a stream, which tumbles over the rocks at two separate places, produces two pleasing waterfalls. Immediately on passing the wall, the enchantment dissolves, and you find how slender is the partition between a poetic elysium and the commonplace occupation of rustic life. Lord Bristol has planted another very extensive bank at Ballymaddigan glebe. Ash, oak, willow, pine, lime, horsechestnut, spruce, and larch are thriving luxuriantly. The soil is sometimes bluish clay for two feet; but, by trenching two or three spades deep, it has been much improved. Several young trees, which might bear under-logging, are stifling others which cannot be pruned; among the former are the elms, among the latter the silver fir. The blighting effect of the north-west is equally destructive to the quicks, planted behind the shelter of high loose walls, in the divisions of the higher grounds. The same is true every where else on this coast, in the same exposure. The trees and hedges seem to fly from the enemy; their scanty growth sprouts all from the side most distant from the sea, leaving a ragged, wounded, and blighted rear to the destructive pursuer, so soon as they overtop the screen, whether it be natural or artificial. The best possible mode for planting, in exposed situations, is to throw up ditches, topped with broom, behind whose shelter the seeds of the hardiest forest trees are to be dibbled in thickly. It is not until these have grown to a considerable height, that we can hope for trees of a more delicate constitution. I must not forget that the *Salix caprea*, or black willow, seemed alone to endure the storms from the north-west. I give this hint, that experiments may ascertain the fact more generally. (*Statistical Survey of the County of Londonderry*, p. 423, 424.)

ART. III. Covent Garden Market.

PRICES FOR THE FIRST AND SECOND WEEKS OF NOVEMBER.

<i>The Cabbage Tribe.</i>	From			To				From			To		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Cabbage, White, per dozen	0	0	10	0	1	0	Leeks, per dozen bunches	0	1	0	0	0	0
Cabbage, Red, per dozen	0	1	6	0	2	0	<i>Asparagus Plants,</i>						
Cabbage Plants, or Cole- worts, per dozen	0	1	6	0	2	0	<i>Salads, &c.</i>						
Savoy, per dozen	0	1	3	0	1	6	Lettuce, Coss, per score	0	1	6	0	0	0
Cauliflowers, per dozen	0	3	0	0	4	0	Endive, per score	0	0	8	0	0	0
Broccoli, White, per bunch	0	0	8	0	1	0	Celery, per bundle (12 to 15)	0	0	8	0	1	0
<i>Tubers and Roots.</i>							Watercress, per dozen, small bunches	0	0	6	0	0	0
Potatoes, per ton	3	0	0	4	0	0	<i>Pot and Sweet Herbs.</i>						
Potatoes, Kidney, per bush.	0	3	0	0	0	0	Parsley, per half sieve	0	0	6	0	0	0
Scotch, per bushel	0	2	0	0	2	3	<i>Fruits.</i>						
Turnips, White, per bunch	0	1	6	0	1	9	Apples, Dessert, per bushel	0	6	0	0	10	0
Carrots, Old, per bunch	0	0	3	0	0	5	Apples, Baking, per bushel	0	5	0	0	9	0
Parsneps, per dozen	0	1	0	0	0	0	Apples, French, per bushel	0	3	0	0	0	0
Red Beet, per dozen	0	1	0	0	0	0	Pears, Dessert, per $\frac{1}{2}$ sieve	0	8	0	0	10	0
Horseradish, per bundle	0	2	0	0	2	9	Almonds, per peck	0	6	0	0	0	0
<i>The Spinach Tribe.</i>							Walnuts, per bushel	0	14	0	0	16	0
Spinach, per half sieve	0	0	4	0	0	6	Chestnuts, English, per peck	0	4	0	0	6	0
<i>The Onion Tribe.</i>							Grapes, from the open wall, per pound	0	0	8	0	1	0
Onions, Old, per bushel	0	2	0	0	3	0	Oranges, per hundred	0	2	6	0	10	0
Onions, for pickling, p. $\frac{1}{2}$ siev.	0	3	0	0	0	0	Lemons, per hundred	0	6	0	0	8	0
Onions, when green (Cl- bocles), per bunch	0	0	3	0	0	0	Brazil Nuts, per bushel	0	16	0	0	18	0

Observations. — The remarkably fine autumn causes an abundant supply of every kind of autumnal vegetable. Seasonable fruits have also, hitherto, appeared in plenty. Apples, and other fruits from the Continent, furnish our shops and stalls; and, at this time, fully make up for the general scantiness of produce in our own orchards. The high price of bread keeps up the price of potatoes; higher, perhaps, than the very abundant crops all over the kingdom would have induced us to expect. — *M.*

ART. IV. *Horticultural Society and Garden.*

SEPT. 16. — Read. An original Plan of growing Pines and Melons in the same pit; by Mr. William Basting, gardener to A. H. Heward, Esq., of Ipswich. On a cheap and efficacious Mode of destroying the Aphis on Wall Trees; by Mr. George Vaux, Surgeon, &c., Ipswich. Upon a Method of obtaining late Flowers of Ranunculuses; by Mr. Henry Groom, F.H.S.

Exhibited. Seedling Dahlias, from the Rev. Thomas Garnier, F.H.S. *Renanthera coccinea*, from Mr. Thomas Fairbairn, F.H.S. Queen Pine-apples, from Thomas Andrew Knight, Esq., F.H.S. Six sorts of Pears and six sorts of Apples, from Mr. John George Fuller, F.H.S. Cornichon Grape, and a Seedling Grape, from Mr. William Birch, F.H.S. Twenty-three sorts of Apples, from Mr. Thomas Gibbs, F.H.S.

Also, from the Garden of the Society. Five sorts of Peaches, ten sorts of Apples, and an Enville Pine-apple. Flowers of *Eschschœzia californica*, *Hibiscus africanus*, *Centaurea americana*, Poppy Anemones, French Marigolds, China Pinks, China Asters, *Collomia grandiflora*, *Clarkia pulchella*, *Galardia aristata*, *Agératum mexicanum*, *Lupinus plumosus*, *lépidus*, and *ornatus*; Double, Dwarf, and Anemone-flowered Dahlias.

Oct. 7. — Read. Upon the cultivation of the Cucumber; by Mr. R. L. Howes, gardener to E. Everard, Esq., of Middleton, near Lynn, Norfolk. Upon the probable Cause of the Russet in Apples; by John Williams, Esq. C.M.H.S.

Exhibited. Fruit raised from seed of a Cucumber impregnated by the Maltese Melon, from Mr. John Oliver, gardener to the Earl Craven, F.H.S. Seeds and capsules of *Sterculia Balanghas*, from Sir Abraham Hume, Bart. F.H.S. Potiron Jaune, weighing 117 lbs., from J. H. Pope, Esq. Cucumbers, and flowers of Cockscombs, from Mr. R. L. Howes. Specimen of New Zealand Hemp, prepared from the leaves of *Phormium tenax*, from Alexander Seton, Esq. Double Dahlia, from Charles Hampden Turner, Esq. F.H.S. Wheatear Carnations, Royal (Common) Muscadine Grapes, and twenty-three sorts of Apples, from Mr. Joseph Kirke. A collection of Double Dahlias, from Mr. John Cree, F.H.S. A collection of Double Dahlias, from Mr. John Young, C.M.H.S., of Taunton. Downton Imperatrice Plum, and two Pine-apples, from Thos. Andrew Knight, Esq., F.R.S. &c. President. Cooper's Red American Plum, thirteen sorts of Apples, and forty-eight sorts of apples, from Mr. Thomas Gibbs, F.H.S. A monstrous Jargonelle Pear, preserved in spirits, from Mr. Brown, of Perth. Williams's Pear (second crop), and Knevett's Seedling Swan's Egg Pear, from Mr. Samuel Knevett, F.H.S. Gros Dillen and Gloux Morceaux Pears, from Roger Wilbraham, Esq., F.H.S.

Also, from the Garden of the Society. Nine sorts of Apples, four sorts of Pears, Catherine and Heath Peaches, *Vaccinium padifolium*, seven sorts of Love-apples, and Celeriac; also flowers of Double and Anemone-flowered Dahlias, *Hibiscus africanus*, *Verbena Aubletia*, *Galardia aristata*, *Agératum mexicanum*, Poppy Anemones, China Asters and *Centaurea americana*.

Oct. 21. — *Exhibited.* A head of Cape Broccoli, from Mr. William Boyce, gardener to Colonel Kingscote, of Kingscote, Gloucestershire. Jerusalem Sweetwater Grapes, from the Rev. Dr. Vansittart, of Maidenhead. Eight sorts of Flowers, and an Apple unnamed, from Robert Barclay, Esq., F.H.S. Four sorts of Pears and eight sorts of Apples, from Mr. John George Fuller, F.H.S. Monstrous Pears, from John Robert Hall, F.H.S. Hambledon Deux Ans Apple, from the Rev. Frederick Beadon, F.H.S. Golden Pippins and Forman's Crew Apple, from Richard Forman, Esq., F.H.S.

Also, from the Garden of the Society. An Enville Pine-apple, four sorts of Pears, thirteen sorts of Apples, *Passiflora maliformis* (Sweet Calabash), and *Passiflora quadrangularis* (Granadilla). Flowers of *Gilia capitata*, *Ceanothus Lindleyi*, *Lupinus ornatus* and *plumosus*, *Tagetes lucida*, *Clarkia pulchella*, *Collomia grandiflora*, *Coreopsis tinctoria*, *Verbena Aubletia*, *Ageratum mexicanum*, *Hibiscus africanus*, Poppy Anemones, and French Marigolds.

ART. V. *Provincial Horticultural Societies.*

YORKSHIRE.

YORKSHIRE Horticultural Society. — A Meeting of this Society was held on the 3d of September. The season being the perfection of Pomona's reign, the display of fruits was of the finest description; and though many of the floral beauties of the spring and summer months now have ceased to bloom, yet there was a rich variety of flowers, both hardy and exotic. The collection of dahlias, double, semi-double, and single, presented, in their fineness of form and beautiful colours, a very interesting spectacle, more especially to the amateur florists who were present. Last, though not least, either in the excellence of their culture, or the benefits derived from them, we must notice the culinary vegetables, which divided attention with the fine plates of fruit in their vicinity. At a little before two o'clock, the doors were thrown open, and, on entering this spacious room, the excellent arrangement of the articles for show, and the tasteful display of the floral decorations, at once pleasingly arrested attention.

In the centre of the room, long tables were placed, in the form of a hollow square. On that part of the square in front of the orchestra were placed several plates of fruit, for some of which prizes had been awarded. Extending on the right of this table to that crossing the lower end of the room, were arranged the very great number of dahlias brought for competition for the several prizes. At nearly the centre of this table stood the elegant exotic bouquet, brought by Mr. H. Baines, from Messrs. Backhouse's, of this city, and for which the first prize was awarded. Beyond this, to the end of the table, were placed a variety of the fine culinary vegetables. On the lower cross table were arranged a rich collection of exotics and rare flowers, amongst which we noticed a number of very beautiful heaths. The grand attraction of this table was its central ornament, the superb hardy bouquet, also the formation of Mr. Baines, and which very deservedly obtained the prize. This gigantic structure of flowers contained, amongst an innumerable variety of species, the following hardy plants: — *Gilia capitata*, *Collomia grandiflora*, *Collinsia grandiflora*, *Mimulus sumatranus*, *Mimulus luteus rivularis*, *Ceanothus Lindleyana*, *Ceanothus Ramon-zovii*, *Ceanothus albicaulis*, *Clarkia pulchella*, *Valeriana congesta*, *Primula longiflora*, *Leucolum autumnale*, and reached from the table considerably above the front of the gallery. We have frequently had to notice the

beauty of Mr. Baines's hardy bouquets, but we think we never before saw one so rich in the quality, the number, and the variety of its flowers. Returning along the opposite or left side of the square, vegetables of the finest kind were displayed upon one half of it; and the other part, to its junction with the front table, was occupied with plates of fruit. Another cross table was placed immediately in front of the orchestra, below the chairman, on which fruit and vegetables were exhibited. The front of the orchestra was ornamented with three large and elegant bouquets, one of which was furnished by Messrs. Rigg, near this city. Several beautiful exotics, in bottles, were also arranged between these bouquets, upon the base of the open work which forms the orchestra front. Before the large doors, which form the entrance from the Concert Room to the Great Assembly Room, was a novel and very beautiful object. This was a little green-house, heated by steam, for the exhibition of small plants, of which it contained a curious variety. This elegant, simple, and novel contrivance is the production and workmanship of the gardener of Mrs. Salmond, and reflects much credit upon his ingenuity. In passing from this pleasing and ornamental green-house, along the lower end of the room was arranged the fine display of rare exotics, in pots, which had been sent for the purpose of decorating the room, and adding to the interest of the exhibition. These, in the variety of their foliage, some displaying their broad gigantic leaves, in contrast with the small creeping tendrils of others turning round the pillars of the gallery; and some, again, showing their rich scarlet flowers, called the attention of the spectators to the wonders of foreign climes. Amongst these were the *Beaufortia decussata*, from the gardens of Major Yarrow, and a splendid *Amaryllis*, from the collection of William Oldfield, Esq. The following were sent from the garden of J. Smith, Esq., of Hungate, in this city:—*Musa coccinea*, *paradisica*, and *rosacea*; *Pancratium fragrans*, *Kempferia rotunda*, *Arum odoratum*, *bulbiferum*, and *Colocasia*; *Cactus tetragona*, *Royenii*, *heptagona*, *brasiliensis*, and *spinosissima*; *Aloe lingua* (true), *Dracæna ferrea*, *Colebrookia thyrsifolia*, *Caladium bicolor*, *Asclepias curassavica*, *Stapelia variegata* and *glauca*, *Solanum flavispinum*, *Cyperus alternifolius*, *Phoenix dactylifera*, *Spilanthes oleracea*, *Maranta bicolor*, *Canna glauca*, *Thunbergia fragrans*, *Yucca aloefolia*, *Cyclamen hederifolium*.

Before the chair was taken, a most respectable company, amongst which were many elegantly dressed ladies, had assembled; though these, perhaps, were not so numerous as they would have been, had the day been more favourable, showers falling at intervals until the time appointed for the Meeting. The sun being clouded, also occasionally detracted from the splendid appearance the rich colours of the flowers presented when illuminated by its beams.

About half past two o'clock, on the motion of F. Cholmley, Esq., of Bransby, the Rev. T. C. R. Read, of Sand-Hutton, took the chair, and briefly addressed the Meeting. He said that he unfortunately was again called to preside. The object of the Society, however, when stated, would, he trusted, compensate for his inability. That object was, to reward such gardeners as, by their skill and science, should excel in the practice of horticulture. Competent judges had been appointed, who had examined the fruits, flowers, and vegetables, and who had, he doubted not, formed correct decisions as to the merit of the different competitors for the prizes. In his opinion, much advantage and knowledge would be derived from the successful candidates informing the Meeting of the methods adopted by them to bring the various flowers, &c., to perfection. None would, he thought, be so narrow-minded as to withhold what were termed the secrets of the trade: it could be no detriment to them, those who attended there being principally the gardeners of gentlemen. Market-gardeners were differently circumstanced; but amongst them, he was convinced, a liberal feeling

existed. He had recently received a letter from a respectable young man, requesting him to recommend some gardeners' books. He had done so; and, in his opinion, it would be well for gardeners to form small clubs in their respective neighbourhoods, for the establishment of horticultural libraries, which might be accomplished at a small expense. He had thrown out the hint, and it was for them, if they thought proper, to adopt it. The worthy Chairman concluded by stating that the number of subscribers to the Society were few, and that consequently the funds were small; he therefore hoped that many present would become subscribers, so that the Society would be enabled to reward the successful candidates according to their merit.

The prizes were then adjudged as follows:— *Fruit.* Pines: Thomas Deuxberry, gardener to A. Rhodes, Esq., of Horsforth Hall. In awarding this prize, the Chairman complimented Mr. Deuxberry on his great skill and experience. Mr. Deuxberry said that the pine was reared in the ordinary way, the hot-house being heated by steam. Melons: 1. William Thompson, gardener to J. W. Clough, Esq., of Oxton House, near Tadcaster; 2. Thomas Walker, gardener to the Rev. D. R. Curren, of Clifton. Black Grapes: 1. Thomas Deuxberry; 2. Charles Parkin, gardener to R. Bethell, Esq., of Rise. White Grapes: 1. — Moore, gardener to J. B. Pease, Esq., of Chapeltown, near Leeds; 2. James Brown, gardener to Thomas Hebblethwaite, Esq., of Woodhouse, near Leeds. Grown without fire: Thomas Deuxberry. The only heat which had been applied to these grapes was what came from dead leaves. Peaches: 1. Thomas Mason, gardener to R. J. Thompson, Esq., of Kirby Hall; 2. William Ashton, gardener to B. Gaskill, Esq., of Thornes House. Nectarines: 1. Thomas Smithies, gardener to Sir W. M. Milner, Bart., of Nun-Appleton; 2. Thomas Mason. The Chairman informed Mr. Mason, that there was no prize advertised for Apricots, but that he had produced so fine a sample, that the Committee had been induced to award one to him. Apples: 1. Ribston Pippins, James Burnett, gardener to Col. Baines, of Bell Hall, near this city; 2. Lemon Pippins, — Abbershaw, gardener to B. Horner, Esq., of Fulford Grange; 3. Golden Pippins, Thomas Deuxberry; 4. Paradise Pippins, William Ashton; 5. Greenup's Pippins, Thomas Deuxberry; 6. Cornish Crabs, Mr. John Lupton, of Bootham, York; 7. Hawthorn Dean, Mr. A. Parker, of this city; 8. Fill-Baskets, Joseph Benson, gardener to Colonel Croft, of Stillington. Pears (Jargonelles): Thomas Deuxberry. Green Gages: Thomas Mason. Magnum Bonums: Thomas Mason. The Chairman complimented Mr. Mason on a fine display of Currant berries, both white and red, which he had grown; finer, the Chairman observed, he never beheld. Oranges: Mr. David Priestman, of Marygate, York. Figs: The Chairman said there was no prize offered, but the sample shown was so fine, that the Committee had awarded a prize to Joseph Benson, gardener to Colonel Croft. — *Flowers.* Double Dahlias: 1. Good Purple, 2. Coccinea superba, and 3. Well's Dwarf Yellow, Henry Baines; 4. Mr. Lumley, of Hay Park, near Knaresborough; 5. Coccinea superba, Henry Baines. Semi-double Dahlias: 1 and 2. Coccinea superba, Mr. Baines; 3 and 4. Mr. Parker; 5. New White, Mr. Baines. Single Dahlias: 1. Thomas Deuxberry; 2. Joseph Benson; 3. Charles Hague, of this city; 4. Thomas Deuxberry, 5. Seedling, Mr. Wm. Hardman, of this city. Rarest Stove Plant: 1. Henry Baines; 2. Alfred Whitelock, gardener to Colonel Arden, of Pepper Hall, near Northallerton; 3, 4, and 5. Henry Baines; 6. Mr. Bean, jun., Stonegate. A beautiful Heath: Robert Smith, gardener to Miss Nelson, of Bootham. Best Exotic in Pot (*Strelitzia reginæ*): Philip Fawcett, gardener to Major Yarbrough, of Heslington. Exotic Bouquet: Henry Baines. Hardy Bouquet: 1. Henry Baines; 2. Messrs. Rigg, of this city. — *Culinary Vegetables.* Carrots (large superb): John Lambe, Great Ouseburn. Celery: Joseph Holmes, gardener to Messrs. Backhouse, of York. It was new, and

was of the largest silver kind. He also produced the following vegetables: Dwarf Russian Celery; Ragley Cove Coss, New Union Cabbage, and New Prussian Cabbage Lettuces. Peas: William Appleby, near Leeds. Cucumbers: 1. Thomas Walker; 2. A. Parker, York. Onions: 1. J. Ingles, Clifton; 2. Thomas Mason. Golden Cress: D. Empson, gardener to Mr. Swann. Cabbages: 1. Savoy, John Lambe, Ouseburne; 2. Red, Mark Clarke, foreman to Messrs. Backhouse.

The Chairman then stated that it became his pleasing duty to return the thanks of the Society to Mrs. Dixon, Mrs. Pickard, Miss Nelson, Major Yarburgh, Mr. Smith of Hungate, and Messrs. Backhouse, whose kind contributions of plants and flowers had contributed so much to the decoration of the room. Thanks were then voted to the Chairman, and the business of the day concluded at four o'clock.

Judges of the Fruit: Dr. H. S. Belcombe, Daniel Tuke, Esq., and Mr. Ralph Clark, gardener to R. Denison, Esq., Kilnwick Percy. Judges of Flowers: Mr. Henry Mills, Mr. Francis Bulmer, and Mr. Young, gardener to William Constable Maxwell, Esq., Everingham. Judges of the Culinary Vegetables: Thomas Price, Esq., Mr. Wolstenholme, and Mr. Young. (*York Courant*, Sept. 9.)

The Florists' Society held their Annual Show of Carnations and Picotees on October 8th, in Bradford. The judges of the flowers were Mr. Benjamin Ely, Mr. Thomas Mellor, and Mr. Christopher Kershaw, who awarded the prizes as follows:—*Carnations*. Scarlet Bizards: 1. Wild's Perfection, Mr. Edwd. Fletcher; 2. Pearson's Rising Sun, Mr. Shorrocks; 3. Roby's Salamander, Rev. L. Hird; 4. Davey's Sovereign, Mr. Hemmingway; 5. Wild's Major, Mr. Joseph Wood; 6. Lee's Lord Byron, Mr. Shorrocks; 7. Waterhouse's Dr. Syntax, Rev. L. Hird; 8. Thompson's R. Cartwright, Esq., Mr. Edwd. Fletcher. Pink Bizards: 1. Cartwright's Rainbow, and 2. Ely's Junior, Mr. Edw. Fletcher; 3. Gregory's King Alfred, Mr. Shorrocks; 4. Birtle's Dr. Brown, Rev. L. Hird; 5. Lee's Duke of Kent, Mr. Jos. Wood; 6. Pike's Eminent, and 7. Waterhouse's Plato, Mr. Edw. Fletcher; 8. Yeomanson's George IV., Rev. L. Hird. Scarlet Flakes: 1. Pearson's Madam Mara, Mr. Shorrocks; 2. Potter's Champion, Rev. L. Hird; 3. Clegg's Red Lion, Mr. Jos. Wood; 4. Walton's Frances Anne, and 5. Seedling, Rev. L. Hird; 6. Heath's King William, Mr. Edw. Fletcher; 7. Hufton's Cam Hobhouse, Rev. L. Hird; 8. Clegg's George IV., Mr. Shorrocks. Purple Flakes: 1. Bates's Wellington, Rev. L. Hird; 2. Hufton's La Belle Alliance, Mr. Edw. Fletcher; 3. Turner's Princess Charlotte, Rev. L. Hird; 4. Hall's Major Cartwright, Mr. Edw. Fletcher; 5. Hufton's Mrs. Godfrey Mundy, Rev. L. Hird; 6. Unknown, Mr. Wm. Oddy; 7. Ely's Neptune, Rev. L. Hird. Pink Flakes: 1. Mellor's Lady Jane, Mr. Shorrocks; 2. Hufton's Lady Colville, Mr. Edw. Fletcher; 3. Plant's Lady Hood, Rev. L. Hird; 4. Clegg's Beauty of Rochdale, Mr. Shorrocks; 5. Seedling, Rev. L. Hird; 6. Seedling, Mr. Hemmingway; 7. Lacey's Prince of Wales, and 8. Seedling, Rev. L. Hird.—*Picotees*. Scarlet: 1. Seedling, Bessy Bedlam, Rev. L. Hird; 2. Kenney's Incomparable, Mr. Wm. Oddy; 3. Hufton's Will Stukely, and 4. Clegg's Miss Jane, Rev. L. Hird; 5. Philanthropy, Mr. Jos. Wood; 6. Seedling, and 7. Mungo Park, Rev. L. Hird; 8. Baldwin's Seedling, Mr. Shorrocks. Purple: 1. Seedling, Victoria, Rev. L. Hird; 2. Ely's Elizabeth, Mr. Jos. Wood; 3. Lee's Lady Chatham, Rev. L. Hird; 4. Lee's Cleopatra, Mr. Edw. Fletcher; 5. Lee's Duchess of Rutland, Mr. Wm. Oddy; 6. Bailey's Beauty of Northampton, 7. Hufton's Miss Emma, and 8. Mumford's Lord Nelson, Rev. L. Hird.

DURHAM, NORTHUMBERLAND, &c.

Botanical and Horticultural Society of Durham, Northumberland, and Newcastle upon Tyne.—A Meeting of this Society was held in Newcastle, on Sept. 5., when the following prizes were awarded:—For the best melon, and

dish of best-flavoured gooseberries, the Society's silver medals to Mr. Clark, gardener to Mrs. Bewicke, Close House. For the best dish of grapes and the best dish of plums, silver medals to Mr. Cook, gardener, Bradley Hall. For the best six peaches, a silver medal to Mr. M'Queen, gardener to S. W. Parker, Esq. Scotch House. For the best six nectarines, a silver medal to Mr. Billan, gardener to the Rev. J. Cook, Newton Hall. For the best six apricots, and the best twelve double dahlias, silver medals to Mr. Lawson, gardener to Matt. Bell, Esq., M.P. Woolsington. For the best carnation (Sherwood's Corinthus), a silver medal to Mr. Wilson, Newcastle. For the best seedling carnation, and the best seedling picotee, silver medals to Mr. Scott, gardener to Edward Charlton, Esq., Sandhoe. For the best double picotee (Beauty of Bailey), a silver medal to Mr. Harrop, of Sunderland. For the best dish of New Zealand Spinach, the bronze medal to Mr. Watson, gardener to James Kirsop, Esq., Spittal. For the best six roots of celeriac, a bronze medal to Mr. M'Leish, gardener to A. J. Cresswell Baker, Esq., Cresswell. For the best six roots of carrots, a bronze medal to Mr. Beckwith, gardener to Jacob Maude, Esq., Selaby. For the best bouquet of flowers, the silver medal to Mr. Robson, gardener to Dr. Headlam, Jesmond. Some fine seedling gold-fleshed nectarines were sent by J. Bainbridge, Esq., and raised from seed by him at Newton. Fine specimens of the old English or Kentish Codlin apple, from the garden of Shakspeare Reed, Esq. An Esperion melon, of delicious flavour, and a very beautiful Globe pine, were sent from the garden of the Very Rev. the Dean of Chester, at Stanhope. A very large double white *Camellia japonica*, in full flower, from the garden of David Cram, Esq., Newcastle. Some very large onions from Mr. John Beckwith, gardener to Jacob Maude, Esq. Selaby. Some beautiful specimens of the fruit of the *Cucumis Dudaim*, from the garden of J. C. Anderson, Esq. Some fine specimens of the common hemp (*Cannabis sativa*) were sent from the garden of the prison at Durham, by Mr. Frushard, governor. Two splendid cockscombs from the garden of W. Cuthbert, Esq., Redheugh, were also exhibited. The exhibition was one of the largest ever witnessed, and the profusion of fine bouquets of flowers added much to the beauty of the table. There were thirty competitors for the prizes at this Meeting, which evinces the spirit of emulation the Society has created among the gardeners in this district. An immense assemblage of persons visited the exhibition, and several new members were proposed, which there is little doubt will continue to be the case, as every one ought to contribute to an institution that is at once so pleasing and so useful.

At a *Meeting of the same Society* held in Alnwick, on the 12th inst., the following prizes were awarded:—For the best melon, the silver medal; for the best six apricots from an open wall, named, the silver medal; for the best twelve double dahlias, named, the silver medal; and for the best bouquet of flowers, the silver medal, to Mr. Wm. Balfour, gardener to the Right Hon. Earl Grey, Howick House. For the best dish of grapes, the silver medal to Mr. Joseph Clarke, gardener to Mrs. Bewicke, Close House. For the best six peaches from an open wall, named, the silver medal; and for the best six roots of carrots, the bronze medal, to Mr. Billaw, gardener to the Rev. J. Cook, Newton Hall. For the best six nectarines from an open wall, named; for the best seedling double picotee (which he named Fair Anna), the silver medal; and for the best dish of New Zealand spinach, the bronze medal, to Mr. John M'Leish, gardener to A. J. Cresswell Baker, Esq., Cresswell. For the best dish of plums, the silver medal to Mr. Gibbinson, gardener to the Hon. Gen. Grey, Falloden. For the dish of best-flavoured gooseberries, the silver medal to Mr. Matthew Brewis, Alnwick. For the best double carnation (Finmoor's Rising Sun), the silver medal; and for the best six roots of celeriac the bronze medal, to Mr. James Scott, gardener to Edward Charlton, Esq., Sandhoe. For

the best seedling carnation (which he named the Triumph of Eslington), the silver medal; and for the best double picotee (Yellowley's Lady Ravensworth), the silver medal, to Mr. Anthony Oliver, gardener to the Hon. H. T. Liddell, Eslington House. A fine plant of the *Zèa Mays*, or Indian Corn, was exhibited from the garden of the Hon. H. T. Liddell, Eslington House; and some fine specimens of apples and pears from the garden of Wm. Burrell, Esq., Broomepark. (*Newcastle Cour.*, Sept. 13. 20.)

LANCASHIRE.

Manchester Floral and Horticultural Society. — A Meeting of this Society was held on Sept. 15. The day being extremely fine, the show was fully and fashionably attended. The Meeting being intended principally for the exhibition of fruits, it was not expected that there would be so great a collection as usual of stove, green-house, and herbaceous plants; but a greater number of these was sent than had been anticipated, and the collection, if not very extensive, was at least select, and comprehended some beautiful specimens in those classes of shrubs and flowers. The show of dahlias was extremely splendid; and exceeded, perhaps, any collection of that beautiful flower ever exhibited in Manchester. The fruits, which formed the chief attraction of the show, were displayed upon a table in the west end of the room, and never did table groan beneath a more luscious load of nature's choicest gifts. Pines, melons, peaches, grapes, and nectarines, together with pears and apples in the most varied and profuse abundance, contended for the preference; and there was a lack of nothing in the vegetable world that could give delight to "sight, smell, or taste." The prize for the best ripe pine was awarded to Mrs. John Sherratt; second (an Otaheitean fruit), to George Scholes, Esq.; third (seedling), to John Entwistle, Esq. The best two bunches of grapes (White Muscadell) were the production of Richard Barton, Esq.; the second (Black Hamburg) were a second crop from the vine, belonging to William Smith, Esq., which gained the prize in May. The best ripe melon was produced by Richard Barton, Esq.; the best ripe nectarine by Mr. Bayley; and the best ripe peaches by Hugo Worthington, Esq. Of apples there was a most abundant show, and prizes were awarded to the best twelve plates. The prize for the best plate (Greenup Pippins) was won by Mr. John Moore; the second (Ribston Pippins), by Mr. Smith, senior. Premier prizes were also given to G. R. Chappel, Esq., for a Goose apple; and to Mr. Moore, Mr. Smith, and Captain Webster, for Greenup Pippins. In addition to these, extra prizes were given to Charles Walker, Esq., for a Nelson apple; to Mr. Smith, for a Lording and a White Loaf; and to G. R. Chappell, Esq., for a Newtown Pippin; also to T. H. Hadfield, Esq., for a plate of beautiful small round red apples of an unknown sort. The best plate of pears (Bergamotte) was produced by Charles Walker, Esq., the second by Captain Webster. Four premier prizes were also given, two of which were won by Charles Walker, Esq., one by Mr. Poole, and one by T. H. Hadfield, Esq. The other prizes were as follows: — Best plate of filberts: 1. R. Barton Esq.; 2. Hugo Worthington, Esq. Mulberries, extra prize, B. H. Green, Esq. Whinberries (*Vaccinium andromedæfolium*), extra prize, Mrs. H. Sandford. Plate of tomatoes, extra prize: 1. Charles Walker, Esq.; 2. R. Barton, Esq. Besides the fruits we have enumerated, there were on the table a small apple tree bearing fruit, a dish of plums and magnum bonums, gourds, English and African, capsicums, peas, walnuts, cucumbers, two fine specimens of vegetable marrow, a dish of gooseberries, and one of strawberries. The vegetables were placed on a separate table. The prizes were: red cabbage, extra-prize, Charles Walker, Esq.; best onions, Charles Wood, Esq.; best celery, L. Loyd, Esq. The flowers and shrubs were placed in the middle of the room. Six prizes were awarded to the best single, and six to the best double dahlias. The prize for the best single was

won by R. Barton, Esq.; the second by Mr. John Hulme. Best double: 1. Mr. Thomas Marten; 2. R. Potter, Esq. Best green-house plant (*Citrus myrtifolia*), R. Barton, Esq.; best stove plant (*Portlandia grandiflora*), R. Potter, Esq.; best two geraniums, W. Garnett, Esq.; best herbaceous plant (*Tagetes lucida*), R. Barton, Esq. (*Manchester Herald*, Sept. 18.)

LEICESTERSHIRE.

A Tulip Meeting was held at Leicester, on May 19. 1828, when the following were exhibited: — *Bizards*. Feathered: 1. Trafalgar, Mr. Warner; 2. Unknown, and 3. Gold Beurres, Messrs. Marris and Collison; 4. Arabella, Mr. Thornicroft; 5. Gouvernante, Mr. Warner; 6. Surpasse Perfecta, Mr. Thornicroft; 7. Unknown, Messrs. Marris and Collison; 8. Unknown, Mr. Warner. Flamed: 1. Surpasse la Cuntique, and 2. Sir Sydney Smith, Mr. Warner; 3. Arrande, Messrs. Marris and Collison; 4. Surpasse Catafalque, 5. Potter's Albion, and 6. Grand Cairo, Mr. Thornicroft; 7. Bell's King, and 8. Unknown, Mr. Warner. — *Bybloemens*. Feathered: 1. Bates' Baguet, Mr. Warner; 2. Abdalonymus, and 3. Dark Bouquet, Mr. Thornicroft; 4. Fleur des Baguets, and 5. Prince de Tulipes, Mr. Warner; 6. Francis the First, Mr. Bradley; 7. Gay Stella, Mr. Thornicroft; 8. Rodney, Messrs. Marris and Collison. Flamed: 1. Prince of Wirtemberg, Mr. Bradley; 2. Bienfait Incomparable, 3. Gadsby's Magnificent, and 4. Cordon Bleu, Messrs. Marris and Collison; 5. Gallican Noir, Mr. Bradley; 6. Prince Meuritz, and 7. Hildred's Supreme, Mr. Warner; 8. Bienfait, Messrs. Marris and Collison. — *Roses*. Feathered: 1. Cerise Quarto, 2. Duc de Bronte, 3. Veronica, and 4. Iphigenia, Mr. Thornicroft; 5. Rose Incomparable, Mr. Warner; 6. Rosalind, and 7. Pearson's Fair Helena, Messrs. Marris and Collison; 8. Michael de Lisle, Mr. Thornicroft. Flamed: 1. Ponceau, Mr. Warner; 2. Tombeau de la Duchesse, 3. Vesta, 4. Unique, and 5. Cerise Fond d'Argent, Mr. Thornicroft; 6. Roi des Cerises, Mr. Warner; 7. Triomphe Royal, Mr. Thornicroft; 8. Turner's Rose Ruby, Mr. Bradley.

A Carnation Meeting was held at Leicester, on July 21. 1828, when the following were exhibited: — *Bizards*. Scarlet: 1. Wild's Surpasse Perfection, Mr. Mitchell; 2. Yeomanson's Metropolitan, Mr. Parker; 3. Seedling, Mr. Warner; 4. Smalley's Foxhunter, Mr. Rawson; 5. Seedling, and 6. Cartwright's British Hero, Mr. Yeomanson; 7. Seedling, Mr. Rawson; 8. Seedling, Mr. Yeomanson. Crimson: 1. Cartwright's Rainbow, Mr. Wolfe; 2. Seedling, Mr. Mitchell; 3. Plummer's Lord Denbigh, Mr. Yeomanson; 4. *Turner's Duke of Devonshire, and 5. Seedling, Mr. Parker; 6. Gregory's King Alfred, Mr. Thornicroft; 7. Seedling, Mr. Harley; 8. Lacey's Wellesley, Mr. Rawson. Scarlet: 1. Seedling, Mr. Rawson; 2. Thornicroft's Rubens, Mr. Mitchell; 3. Pearson's Madame Mara, and 4. Plummer's Waterloo, Mr. Wolfe; 5. Smalley's Seedling, Mr. Parker; 6. Seedling, Mr. Harley; 7. Seedling, Mr. Warner; 8. Seedling, Mr. Rawson. — *Flakes*. Purple: 1. *Turner's Princess Charlotte, Mr. Parker; 2. Wood's Commander, Mr. Yeomanson; 3. Kenney's Excellent, Mr. Mitchell; 4. †Seedling, Mr. Harley; 5. Hadwen's Princess Royal, Mr. Rawson; 6. Seedling, Mr. Parker; 7. Hufton's Miss Sitwell, Mr. Warner; 8. Seedling, Mr. Rawson. Rose: 1. Fletcher's Duchess of Devonshire, and 2. Lacey's Princess, Mr. Yeomanson; 3. Seedling, Mr. Warner; 4. Rosamond, Mr. Mitchell; 5. Rivers' Incomparable, Mr. Warner; 6. Seedling, Mr. Harley; 7. Percy's Fame, and 8. Seedling, Mr. Thornicroft. — *Picotees*: 1. Mayor of Northampton, Mr. Mitchell; 2. Hufton's Will Stukely, Mr. Wolfe; 3. Lee's Cleopatra, Mr. Yeomanson; 4. Hufton's Duke of Norfolk, Mr. Warner; 5. Pearson's Chilwell Beauty, Mr. Rawson; 6. Mason's Lord Exmouth, Mr. Parker; 7. Kenney's Flora, Mr. Wolfe; 8. Seedling, Mr. Parker.

Those marked *, were afterwards discovered not to have been the growth of the person who exhibited them; and that marked †, was also identified as Turner's Princess Charlotte.

522 *Provincial Horticultural Societies. — Northamptonshire.*

Mr. Thomas Warner will, next year, give the sum of three guineas to any person resident within the county, who shall exhibit the best pan of carnations of his own *bona fide* growth, to consist of six blooms, viz. scarlet bizard, crimson bizard, scarlet flake, purple flake, rose flake, and picotee. Mr. William Hester, also, gives one guinea for the second best pan. Conditions as above.

NORTHAMPTONSHIRE.

Northampton Loyal Horticultural Society. — The second Annual Feast Day of this Society was held in Northampton, on Friday the 18th July, when the prizes were adjudged as follows : — *Flowers.* Carnations : Scarlet Bizards : 1. Mr. J. Whitmy ; 2. Mr. G. Mason ; 3. Mr. T. Mason ; 4. Mr. A. Fisher ; 5. Mr. Martin ; 6. Mr. J. Steevenson ; Seedling (Sir R. Gunning), Mr. G. Mason. Crimson Bizards : 1. Mr. J. Steevenson ; 2. Mr. G. Mason ; 3. Mr. P. Cornfield ; 4. Mr. Martin ; 5. Mr. Dainty ; 6. Mr. J. Auld ; Seedling (Lord Westmoreland), Mr. J. Whitmy. Scarlet Flakes : 1. Mr. Martin ; 2. Mr. G. Mason ; 3. Mr. J. Allen ; 4. Mr. J. Auld ; 5. Mr. Dainty ; 6. Mr. J. Steevenson ; Seedling (Earl Compton), Mr. J. Whitmy. Rose Flakes : 1. Mr. P. Cornfield ; 2. Mr. J. Allen ; 3. Mr. Martin ; 4. Mr. J. Auld ; 5. Mr. T. Mason ; 6. Mr. A. Fisher ; Seedling (Marchioness of Northampton), Mr. Martin. Purple Flakes : 1. Mr. J. Allen ; 2. Mr. P. Cornfield ; 3. Mr. T. Mason ; 4. Mr. Martin ; 5. Mr. C. Kirshaw ; 6. Mr. G. Mason ; Seedling (Spencer Gunning), Mr. J. Whitmy. Picotees : Scarlet, or red-edged : 1. Mr. G. Mason ; 2. Mr. T. Mason ; 3. Mr. P. Cornfield ; 4. Mr. Martin ; 5. Mr. J. Whitmy ; Seedling (Mason's Miss Gunning), Mr. G. Mason. Purple, or Violet : 1. Mr. Martin ; 2. Mr. T. Mason ; 3. Mr. J. Allen ; 4. Mr. P. Cornfield ; 5. Mr. G. Mason ; Seedling (Duke of Wellington), Mr. Martin. Rose-coloured : 1. Mr. P. Cornfield ; 2. Mr. Martin ; 3. Mr. J. Allen ; 4. Mr. T. Mason ; 5. Mr. J. Auld ; Seedling (Cornfield's Glorioso), Mr. Cornfield. Yellow : Cornfield's Mezzotinto (Best Bloom), 1. Mr. J. Allen ; 2. Mr. Martin ; 3. Mr. Cornfield ; 4. Mr. G. Mason. — *Fruit.* Pines : 1. 7 lb. 2 oz., Mr. B. Law ; 2. 3 lb. 3 oz. 5 dwts., Mr. P. Cornfield ; 3. 3 lb. 2 oz. 15 dwts., Mr. J. K. Higgins. Grapes (best bunch) : Black : 1. 2 lb. 4 oz. 5 dwts., Mr. Law ; 2. 2 lb. 4 oz. 4 dwts., Mr. T. Hewlett, jun. White : 2 lb. 9 oz. 7 dwts., Mr. Law. Melons : 1. 7 lb. 5 oz., Mr. Law ; 2. 5 lb. 4 oz. 10 dwts., Mr. Higgins. Cucumbers (best brace) : 1. Mr. J. Steevenson ; 2. Mr. J. Whitmy. Gooseberries : Red, 1. Roaring Lion, 20 dwts. 16 grs., Mr. P. Cornfield ; 2. Roaring Lion, 18 dwts., Mr. Martin ; 3. Crown Bob, 17 dwts. 6 grs., Mr. Champion ; 4. 17 dwts. 5 grs., Mr. Auld. Yellow : 1. Gunner, 14 dwts. 18 grs., Mr. P. Cornfield ; 2. Viper, 13 dwts., Mr. Martin ; 3. 10 dwts. 19 grs., Mr. J. Steevenson ; 4. 10 dwts. 16 grs., Mr. Whitmy. Green : 1. Ocean, 16 dwts., Mr. P. Cornfield ; 2. Ocean, 12 dwts. 13 grs., Mr. Whitmy ; 3. Gooseberry, 11 dwts. 10 grs., Mr. Steevenson ; 4. Ocean, 11 dwts. 3 grs., Mr. Martin. White : 1. Cheshire Lass, 16 dwts. 3 grs., Mr. P. Cornfield ; 2. Whitesmith, 12 dwts. 14 grs., Mr. Steevenson ; 3. White Whitesmith, 11 dwts. 5 grs., Mr. Whitmy ; 4. Whitesmith, 11 dwts., Mr. Martin. Plates of Gooseberries : 1. Nineteen in number, 1 lb. 11 dwts., Mr. T. Hewlett, jun. ; 2. Nineteen in number, 1 lb. 8 dwts., Mr. T. Mason ; 3. Twenty in number, 1 lb. 6 dwts., Mr. J. Steevenson. Plates of Currants : Red, 1. Thirty-eight bunches, 1 lb., Mr. Butterfield ; 2. Forty-four bunches, Mr. T. Mason. White : 1. Twenty-one bunches, 1 lb., Mr. T. Mason ; 2. Twenty-three bunches, 1 lb. 2 dwts., Mr. P. Cornfield ; 3. Twenty-three bunches, 1 lb. 1 dwt., Mr. J. Champion.

Mr. J. Perkins presented the Society with two beautiful bunches of grapes ; one, the White Hamburg, weighing 7 lb. 15 dwts. ; the other, Black Hamburg, weighing 2 lb. 6 oz. 15 dwts.

The show of fruit and flowers, altogether, was one of the most magnificent ever produced in this town.

Provincial Horticultural Societies. — Northamptonshire. 52 :

Original Horticultural Society. — The thirty-second Anniversary of this Society was held at Northampton on the 29th of July, when the following flowers and fruit were shown for prizes : — *Flowers.* Carnations : Scarlet Bizards : 1. Commander in Chief, Mr. Messenger ; 2. Messenger's Colonel Maberly, Mr. Joseph Allen ; 3. Mr. Perkins ; 4. Martin's Glory, Mr. Martin ; 5. John Bull, Mr. Holliday ; 6. — Thompson's Esq. Cartwright, S. Allen ; Seedling (Duke of Grafton), Mr. Messenger. Crimson Bizards : 1. Davey's Rainbow, Mr. Holliday ; 2. Mr. Perkins ; 3. Gregory's Alfred, Mr. S. Allen ; 4. Sun, Mr. Simons ; 5. Mr. J. Allen ; 6. Van Tromp, Mr. Messenger. Scarlet Flakes : 1. Mr. Perkins ; 2. Thornicroft's Blucher, Mr. S. Allen ; 3. Madame Mara, Mr. Martin ; 4. Star, Mr. Holliday ; 5. Madame Mara, Mr. Simons ; 6. Madame Mara, Mr. Carter. Purple Flakes : 1. Mr. Perkins ; 2. Hall's Major Cartwright, Mr. S. Allen ; 3. Bile's Lord Ashbrook, Mr. Messenger ; 4. Bile's Lord Ashbrook, Mr. Martin ; 5. Earl Spencer, Mr. J. Allen ; 6. Bile's Ashbrook, Mr. Simons ; Seedling (Lady Wake), Mr. Martin. Rose Flakes : 1. Strong's Princess Augusta, Mr. Cornfield ; 2. Duchess of Bedford, Mr. Messenger ; 3. Fletcher's Duchess of Devon, Mr. J. Allen ; 4. Fletcher's Duchess of Devon, Mr. Martin ; 5. Fletcher's Duchess of Devon, Mr. S. Allen ; 6. Fletcher's Duchess of Devon, Mr. Simons ; Seedling (Lady Spencer), Mr. Messenger. Picotees : Red : 1. Spratt's Earl of Effingham, Mr. Cornfield ; 2. Spratt's Earl of Effingham, Mr. Messenger ; 3. Lord Althorp, Mr. Simons ; 4. Spratt's Effingham, Mr. J. Allen ; Seedling (Lord Althorp), Mr. Simons. Purple : 1. Mayor of Northampton, Mr. Cornfield ; 2. Bailey's Beauty, Mr. Messenger ; 3. Duchess of Bedford, Mr. Martin ; 4. Cleopatra, Mr. S. Allen ; Seedling (Alderman Brown), Mr. Martin. — *Fruit.* Gooseberries : Red : 1. Roaring Lion, 18 dwts. 16 grs., Mr. H. Law ; 2. Crown Bob, 17 dwts. 14 grs., Mr. J. Perkins ; 3. Crown Bob, 16 dwts. 7½ grs., Mr. Simons ; 4. 16 dwts. 7 grs., Mr. S. Allen ; 5. 16 dwts. 4 grs., Mr. Messenger ; 6. 15 dwts. 21 grs., Mr. Carter. Yellow : 1. 15 dwts. 3 grs., Mr. J. Perkins ; 2. 14 dwts. 15 grs., Mr. Carter ; 3. 13 dwts. 22 grs., Mr. S. Simons ; 4. 13 dwts. 16 grs., Mr. S. Allen ; 5. 13 dwts. 6 grs., Mr. H. Law ; 6. 13 dwts. 4 grs., Mr. Messenger. Green : 1. 16 dwts. 5 grs., Mr. H. Law ; 2. 13 dwts. 9 grs., Mr. J. Perkins ; 3. 12 dwts. 11½ grs., Mr. Simons ; 4. 12 dwts. 11 grs., Mr. Messenger ; 5. 11 dwts. 19 grs., Mr. S. Allen. White : 1. 13 dwts. 17 grs., Mr. Simons ; 2. 13 dwts. 12 grs., Mr. J. Perkins ; 3. 13 dwts. 6 grs., Mr. Messenger ; 4. 12 dwts. 8 grs., Mr. H. Law ; 5. 12 dwts. 2 grs., Mr. S. Allen. Plates of Gooseberries : 1. 17 Berries, 1 lb. 0 oz. 11 dwts., Mr. J. Perkins ; 2. 17 Berries, 1 lb. 0 oz. 10 dwts., Mr. S. Simons. Grapes (best Bunch) : 1. White Hamburgh, 3 lb. 9 oz. 10 dwts., and 2. Black Spanish, Mr. Wood. Green Flesh Melon : 1. 3 lb. 10 oz. 10 dwts., Mr. Bailey, of Delapre ; 2. Mr. Wood, of Cottesbrook. Currants (best pound) : 1. Mr. Carter ; 2. Mr. Law.

Northampton Royal Horticultural Society. — The eighth Anniversary of this Society was held at Northampton, on the 25th of July, when the following flowers and fruit were shown for prizes : — *Flowers.* Bizards : 1. Commander in Chief, Mr. Messenger ; 2. Martin's Glory, Mr. Martin ; 3. Harley's Waterloo, Mr. Auld ; Seedling (Mr. T. Howes), Mr. Martin. Crimson : 1. Cartwright's Rainbow, Mr. Martin ; 2. Cartwright's Rainbow, Mr. Messenger ; 3. Cartwright's Rainbow, Mr. Cornfield ; Seedling (Mr. Fascutt), Mr. Messenger. Scarlet Flakes : 1. Madame Mara, Mr. Martin ; 2. Plummer's Waterloo, Mr. Cornfield ; 3. Blucher, Mr. Auld ; Seedling (the High Sheriff), Mr. Martin. Purple Flakes : 1. Turner's Princess Charlotte, Mr. Martin ; 2. Turner's Princess Charlotte, Mr. Auld ; 3. Turner's Princess Charlotte, Mr. Cornfield ; Seedling (Martin's Princess Charlotte), Mr. Martin. Rose Flakes : 1. Duchess of Devonshire, Mr. Martin ; 2. Duchess of Devonshire, Mr. Cornfield ; 3. Duchess of Bedford, Mr. Mes-

senger; Seedling (Miss Mary Howes), Mr. Messenger. Red Picotees: 1. Spratt's Earl of Effingham, Mr. Cornfield; 2. Will Stukeley, Mr. Martin; 3. Martin's Incomparable, Mr. Messenger. Purple Picotees: 1. Bailey's Beauty, Mr. Messenger; 2. Purcer's Lady Jane Grey, Mr. Cornfield; 3. Mrs. H. Gunning, Mr. Martin; Seedling (Martin's Lady Jane Grey), Mr. Martin. — *Culinary Vegetables*. Cucumbers: Long Prickly, Mr. H. Law. — *Fruit*. Gooseberries: Red: 1. Roaring Lion, 19 dwts. 1 gr., Mr. H. Law; 2. Crown Bob, 15 dwts. 2 grs., Mr. Martin. Yellow: 1. Viper, 12 dwts. 4 grs., Mr. Martin; 2. Lancashire Gunner, 11 dwts. 19 grs., Mr. H. Law. Green: 1. Langley's Green, 16 dwts. 5 grs., Mr. H. Law; 2. Laurel, 9 dwts. 4 grs., Mr. Martin. White: 1. Rock, 10 dwts. 15 grs., Mr. Martin; 2. Rock, 9 dwts. 6 grs., Mr. Auld. Red Currants: Best pound weight (28 bunches), Mr. H. Law.

The Annual Florists' Feast was held at Northampton on the 23d July, when the different prizes were adjudged as follows: — *Flowers*. Scarlet Bizards: 1. Conqueror, Mr. Martin; 2. Cartwright's British Hero, Mr. Carter; 3. Duke of Clarence, Mr. Holliday; 4. Sir R. Gunning, Mr. Mason; 5. Landon's Sir John Bowey, Mr. S. Allen; 6. The Monarch, Mr. Messenger; Seedling (Martin's Glory), Mr. Martin. Crimson Bizards: 1. Davey's Rainbow, Mr. Mason; 2. Davey's Rainbow, Mr. Holliday; 3. Cartwright's Rainbow, Mr. Martin; 4. Davey's Rainbow, Mr. Messenger; 5. Cartwright's Rainbow, Mr. Weston; 6. Cartwright's Rainbow, Mr. Carter; Seedling (Duchess of Clarence), Mr. Mason. Scarlet Flakes: 1. Madame Vestris, Mr. Holliday; 2. Setting Sun, Mr. Messenger; 3. Sir James Langham, Mr. James Allen; 4. Plummer's Waterloo, Mr. Mason; 5. Blucher, Mr. Carter; 6. Madame Mara, Mr. Weston; Seedling (Sir Edward Codrington), Mr. Holliday. Purple Flakes: 1. Ufton's Miss Godfrey Munday, Mr. Messenger; 2. Turner's Princess Charlotte, Mr. Martin; 3. The Albion, Mr. Holliday; 4. Turner's Princess Charlotte, Mr. Carter; 5. Kenney's Excellent, Mr. Mason; 6. Boyle's Lord Ashbrook, Mr. James Allen; Seedling (Britannia), Mr. Holliday. Rose Flakes: 1. Duchess of Devonshire, Mr. Martin; 2. The Balloon, Mr. Holliday; 3. Duchess of Bedford, Mr. Messenger; 4. Duchess of Devonshire, Mr. James Allen; 5. Venus, Mr. Mason; 6. Duchess of Devonshire, Mr. S. Allen; Seedling (the Balloon) Mr. Holliday. Red Picotees: 1. Will Stukeley, Mr. Carter; 2. Martin's Incomparable, Mr. S. Allen; 3. Spratt's Earl of Effingham, Mr. Messenger; 4. Neat and Clean, Mr. Mason; Seedling (Miss Benbow), Mr. Mason. Purple Picotees: 1. Isabella, Mr. Carter; 2. Lady Wake, Mr. Mason; 3. Lee's Cleopatra, Mr. Holliday; 4. Mayor of Northampton, Mr. S. Allen; Seedling (Mayoress of Northampton), Mr. Martin. — *Fruit*. Gooseberries (Crown Bob): 1. 16 dwts. 19 grs., Mr. Weston; 2. 16 dwts., Mr. Carter; 3. 15 dwts. 22 grs., Mr. Messenger; 4. 14 dwts. 3 grs., Mr. Mason.

BEDFORDSHIRE.

Bedfordshire Horticultural Society. — This Society held their Annual Show of Fruit and Flowers, on Friday the 25th of July, when the following prizes were distributed: — *Flowers*. Scarlet Bizards: 1. Furze's Lord of the Main, Mr. Furze; 2. Cartwright's British Hero, Mr. Whitehouse; 3. Yeomanson's Triumphant, Mr. Brinklow; 4. Yeomanson's Triumphant, Mr. Kemp. Crimson Bizards: 1. Furze's Enchanter, Mr. Furze; 2. Gregory's Alfred, Mr. Bunday; 3. Gregory's Alfred, Mr. Kemp; 4. Gregory's Alfred, Mr. Whitehouse. Scarlet Flakes: 1. Pearson's Rising Sun, Mr. Smith; 2. Pearson's Rising Sun, Mr. Bunday; 3. Thornicroft's Blucher, Mr. Furze; 4. Thornicroft's Blucher, Mr. Pullen. Rose Flakes: 1. Fletcher's Devonshire, Mr. Whitehouse; 2. Fletcher's Devonshire, Mr. Frazer; 3. Fletcher's Devonshire, Mr. Pullen; 4. Fletcher's Devonshire, Mr. Furze. Purple Flakes: 1. Turner's Princess, Mr. Furze; 2. Turner's Princess, Mr. Whitehouse;

5. Turner's Princess, Mr. Bunday; 4. Turner's Princess, Mr. Kemp. Seedling Carnation: 1. Furze's Wellington, Mr. Furze; 2. Mr. Brinklow; 3. Mr. Whitehouse. Red Picotees: 1. Russell's Incomparable, Mr. Bunday; 2. Furze's Beauty of Bedford, Mr. Furze. Best Purple Picotee: 1. Hufton's Miss Willoughby, Mr. Bunday; 2. Sheriff's Seedling, Mr. Furze. Six best Blooms of Picotees: 1. Mr. Bunday; 2. Mr. Kemp; 3. Mr. Furze; 4. Mr. Brinklow. Seedling Picotees: 1. Mr. Whitehouse; 2. Mr. Fraser; 3. Mr. Bunday. — *Fruit.* Best-flavoured Melon (not less than 1 lb.): 1. Mr. Kemp; 2. Mr. Pullen; 3. G. P. Nash, Esq.; 4. Mr. Crump. Gooseberries: Red: 1. Roaring Lion, 22 dwts. 6 grs., Mr. Furze; 2. Roaring Lion, 21 dwts. 16 grs., Mr. Fraser; 3. Crown Bob, 20 dwts. 17 grs., Mr. Tregenza; 4. Huntsman, 20 dwts. 4 grs., G. P. Nash, Esq. Yellow: 1. Gunner, 20 dwts. 16 grs., Mr. Pullen; 2. Rockwood, 18 dwts. 12 grs., Mr. Furze; 3. Viper, 16 dwts. 15 grs., Mr. Bunday; 4. Rockwood, 16 dwts. 14 grs., Mr. Fraser. Green: 1. Ocean, 20 dwts. 1 gr., Mr. Furze; 2. Ocean, 19 dwts. 20 grs.; 3. Troubler, 18 dwts. 17 grs., Mr. Pullen; 4. Troubler, 17 dwts. 13 grs., Mr. Kemp. White: 1. Wellington's Glory, 19 dwts. 8 grs., Mr. Furze; 2. Wellington's Glory, 19 dwts. 6 grs., Mr. Pullen; 3. Queen Anne, 18 dwts. 11 grs., Mr. Whitehouse; 4. Queen Anne, 17 dwts. 17 grs., Mr. Fraser. Plate of 18: 1. 16 oz. 4 gr., G. P. Nash, Esq.; 2. 15 oz. 12 gr.; 3. 15 oz. 6 gr., Mr. Pullen. Currants: Pound of Red: 1. Forty-two bunches, Mr. Tregenza; 2. Forty-four bunches, Mr. Fraser; 3. Forty-five bunches, Mr. Bunday. Pound of White: 1. Twenty-four bunches, Mr. Kemp; 2. Thirty-two bunches, Mr. Tregenza; 3. Thirty-two bunches, Mr. Fraser. — Extra Prizes given by Individual Members. C. Short, and G. P. Nash, Esq., for the best-flavoured Melon (weight not less than 1 lb.), to Mr. Reddall. G. P. Nash, Esq., for the best Bunch of Grapes, of any colour, to Mr. Bunday. Mr. Furze, for the best $\frac{1}{2}$ lb. of Black Currants, containing the least number of berries, to Mr. Fraser. Mr. Brashier for the best pound of Raspberries, to Mr. Bunday. Mr. C. Purser, for the best-flavoured Plate of Gooseberries, thirty in number, all of one sort, to Mr. Furze.

ESSEX.

The Chelmsford and Essex Horticultural and Floral Society. — This Society held their last public Meeting for this year, on Sept. 23., when the show of prize dahlias, and of such fruits as were in season, at the Shire Hall, exceeded, both in splendour of decoration and in flowers, as well as in number and respectability of the company present, any of the former exhibitions of the Society. By twelve o'clock the company began to assemble, and before one the room was nearly filled. The prizes (of which we subjoin a list) were adjudged in a small apartment; and then brought out into the large room, and exhibited on the long tables, which were tastefully decorated with such other plants as could be procured in flower at this season. Among them we noticed some tall and brilliant specimens of *Salvia coccinea*, of *Hæmānthus coccineus*, and of various autumnal *Syngènesia*. But the greatest display of beauty was to be found among the dahlias, of which Mr. Ceily contributed some grand varieties, grown at Glazenwood. The band of the West Essex militia attended in full uniform, and played, as usual, from one to three o'clock. After the show was over, the members of the Society, and a few select friends, sat down to an elegant dinner at the Saracen's Head inn, the flowers and prize fruit being transferred to the table. The party was numerous and respectably attended. Dr. Forster, the president, took the chair at four o'clock. After the cloth had been removed, several toasts were drunk, accompanied by appropriate pieces of music from the band.

On the health of the President being drunk, that gentleman rose in consequence to return thanks for the honour conferred on him; and added, "Gentlemen, it is customary on these occasions for the President to address

to you some observations on the progress of the Society. Of its enlargement, increasing respectability, and flourishing condition, I could have spoken much, but I have been saved from obtruding on you a long speech on this occasion, by the far more eloquent and powerful appeal of circumstances. We have all witnessed to-day a larger number of respectable persons than hitherto, our show has been more splendid, our funds are on the increase, and we have just recorded the addition of a large proportion of useful new members. These are *facts* which *speak for themselves*, and any attempt on my part to *speak for them* would only diminish the persuasive eloquence of their appeal to your and my future exertions to maintain the rising character of the Society. On your exertions the appearances of to-day flatter me that I may rely, and I can assure you, on my part, they shall not be wanting. Botany is closely connected with the most useful part of the medical profession, and its study ought to fill up those few hours of recreation which occasional intervals of leisure allow even to the most laborious practitioner." The following prizes were awarded on the occasion: — *Flowers*. 1. L'Ombre Superb, Flora Perfecta, Fair Rosamond, Victory, Star of Devon, Beauty of Devon, Grandesse Royale, Wellington, Rev. W. Jesse. 2. Comet, Sulphura grandiflora, Variabilis, Agatha Imperial, Bellona, Speciosa, Atropurpurea dwarf, Black Prince, Mr. E. Sorrell. 3. Comet, Belvidere, Superb Sulphur, Bellona, Camelliaeflora, La Belle Cerise, Agatha Imperial, Mr. John Harris. — *Fruits*. 1. Mr. Joseph Saltmarsh; 2. Mr. John Harris. The eight dahlias, for which the first prize was awarded, were all raised from seed by Mr. Veitch, of Killerton Nursery, near Exeter, and six of them were new sorts, which came out only this year.

GLOUCESTERSHIRE.

Gloucester Horticultural Society. — The last Show of this Society took place on October 10., when it met with the same liberal degree of support which has hitherto marked its progress. The advanced state of the season of course materially operated against the appearance of the stand appropriated for the reception of flowers and plants, but the eye was nevertheless attracted by a splendid supply of dahlias, presenting a rich variety of colours of almost every hue. The show of apples was very extensive, and highly gratifying, and comprehended specimens of the choicest gifts of Pomona; and grapes and other fruits were exhibited in a state of great perfection. Indeed, the whole was calculated to sustain the high reputation which has already characterised this infant institution; and a manifestly increasing taste for the interesting pursuits of horticulture promises much for the future exhibitions of the Society. (*Hereford Jour.*, Oct. 15.)

WORCESTERSHIRE.

Worcestershire Horticultural and Floral Society. — This Society held its last Meeting for the present year, on September 30., when prizes were awarded to the following specimens: — *Plants*. Stove: Cyrilla pulchella, Mr. Linton. Green-house: 1. Witsenia corymbosa, 2. Erica mammosa, and 3. Polygala oppositifolia, Mr. Smith. — *Fruits*. Grapes, hot-house: Black Hamburg, White Muscat, and White Tokay, Mr. Beech. Out door: White Muscadine, Mr. Beech. Apples: 1. Rosewater Russet, Mr. Linton; 2. Margil, Mr. Fuller; 3. Seedling, Mr. Davies; 4. Black Taunton, Mr. Hunt. Culinary Apples: Flanders Pippin, Mr. Beech. Pears: 1. Chaumontel, and 2. Crassane, Elias Isaac, Esq.; 3. Brown Bury, Mr. Beech. — *Vegetables*. Onions: White Spanish, Mr. Beech. Celery: 1. New Red, Mr. Beech; 2. Mr. Harrison. Red Cabbage: John Taylor, Esq. Early Cape Broccoli, Mr. Beech. — *Dahlias*. Scarlet: 1. Coccinea superba, Rev. T. Waters; 2. Seedling, Mr. Smith; 3. Young's Scarlet, John Taylor, Esq. Crimson: 1. Seedling, and 2. Magnificent, John Taylor, Esq.; 3. Seedling, Mr. Smith; 4. Triumphant, and 5. Lee's Beauté Suprême, J. Taylor, Esq. Purple: 1. Unknown, Rev. T. Waters; 2. Seed-

ling, J. Taylor, Esq.; 3. Duchess of Gloucester, Mr. Smith; 4. Unknown, Rev. T. Waters. Lilac: 1, 2, and 3. Mr. Smith; 4. Seedling, John Taylor, Esq.; 5. Seedling, Mr. Smith; 6. Blush, Rev. T. Waters. Yellow: 1. and 2. Seedlings, John Taylor, Esq.; 3. Seedling, and 4. Wells's Dwarf, Rev. T. Waters; 5. Seedling, John Taylor, Esq.; 6. *Sulphurea superba*, Mr. Smith. White: 1. New White, Mr. Smith; 2. Mr. Beech; 3. Mr. Smith. Dark: 1. Black Turban, Rev. T. Waters; 2. and 3. Seedlings, Mr. Smith. (*Worcester Her.*, Oct. 4.)

Evenham Horticultural Society.—The fifth and last Meeting, for this season, of this Society, was held on the 25th of September, and was attended by a numerous assemblage of the neighbouring families and principal inhabitants of the borough. The exhibition was more choice and numerous in specimens both of floral and horticultural produce, than was shown at the September Meeting of last year. After the prizes had been announced from the chair, and exhibited to the Society, the President, Edward Rudge, Esq., read a communication from Mr. Fulton, gardener to Lord Northwick, on the Management of Vines in the Pinery; in which he recommended vines to be raised from eyes, in preference to any other method, as they root better, are shorter-jointed, and bear more abundantly; to plant shallow, that fresh soil and manure may be added when required. The practice of growing vegetables and flowers near the vine roots is decidedly prejudicial, as tending to wear out the border. To procure round short-jointed wood, he recommends keeping a low temperature in the night, and a very high one in the day, by which mode of treatment vines and pines are not excited in an unnatural degree, and nature is more imitated than exactly followed, — the chief principle in the art of forcing. In pruning, the common kinds are to be cut to one eye; the Muscat, and other finer sorts, succeed best if laid in with four or five eyes. The shrivelling of grapes in hot-houses, he attributes to a greater crop of fruit on the vine than it can support: or to a deficiency of heat when the berries are swelling, which particularly checks the high-flavoured kinds. Vines which grow outside of the forcing-house, he recommends to be taken out from November to March, and not put in till the warmth of spring returns in March to swell the wood. A paper on the Culture of the Hyacinth, the treatment of the bulbs, and the method of producing the finest blossoms, by the gardener of Mr. Fleetwood of Dunnington. He recommends the impregnating of the single hyacinth with the farina of a double one, to produce a fine double flower. A communication on the Pine-apple was also received from Mr. Jessop, of Cheltenham, recommending the retaining and fruiting of pine suckers on the mother plant, after the parent fruit has been cut off, as being well adapted to tardy-fruited plants, and more likely to insure large and fine-flavoured fruit than the common method. The prizes were awarded as follows: — *Dahlias*. Crimson: 1. J. Taylor, Esq.; 2. H. Hudson, Esq. Purple: 1. H. Hudson, Esq.; 2. Sir C. Throckmorton. Scarlet: 1. Sir C. Throckmorton; 2. J. Taylor, Esq. Sulphur: 1. J. Taylor, Esq.; 2. Mr. Valencourt. Light: 1. and 2. J. Taylor, Esq. — *Plants*. Stove and green-house: 1. *Stapelia grandiflora*, E. Rudge, Esq.; 2. *Erica colorans*, E. J. Perrot, Esq.; 3. *Gloxinia maculata*, E. Rudge, Esq. Hardy annuals: 1. J. Taylor, Esq.; 2. Mr. Paine; 3. Mr. Maund. Coxcomb: 1. and 2. J. Taylor, Esq. — *Culinary Vegetables*. Onions: 1. Rev. Mr. Parker; 2. and 3. J. Taylor, Esq. Peas: Mr. C. New. Carrots: Mr. W. Murrel. Beet: Mr. Cheek. — *Fruit*. Apples: 1. Mr. J. Smith; 2. Mr. Hignel; 3. Mr. Fulton. Pears: 1. Mr. Gregory; 2. Mr. Fulton; 3. Mr. Tovey. (*Worcester Herald*, Oct. 11.)

HEREFORDSHIRE.

Herefordshire Horticultural Society.—The last Exhibition for the present season was held on September 27; and, the weather being favourable, a

very fashionable assemblage honoured the truly useful and flourishing institution with their presence. The excellence of the fruit and flowers, the scientific adjudication of the prizes, and the whole of the arrangements, gave general satisfaction. The dahlias were numerous and beautiful in the extreme, but there were few chrysanthemums and China asters. The apples and pears were remarkably fine, and in great abundance, presenting an immense variety of fruits, both cider and dessert, of the best sorts. The peaches, grapes, nectarines, cherries, and plums were also excellent; and some of the celery and carrots equalled, if not surpassed, any we have ever seen. (*Bath Herald*, Oct. 4.)

Ross Horticultural Society. — The twentieth Meeting of this Society was held on the 8th of October. At 12 o'clock the Annual Meeting of the subscribers took place, when the present officers were reelected for the year 1829, with the addition of Col. Marryatt and the Rev. M. H. Jones on the committee. On entering the exhibition room, soon after two o'clock, we found it crowded with the families of rank and fashion around Ross. The display of fruits arranged for exhibition received the most unequivocal marks of approbation; and we can assert it was most extraordinary, as, in common with every one, we expected, through the badness of the season, an inferior assortment in quantity and quality. The tables were covered with upwards of 300 plates of apples, pears, and grapes, the specimens were particularly fine, and the plates well filled. The Society's silver medal was awarded to the Rev. K. E. Money, the Rev. H. Williams, Philip Matthews, Esq., and Mrs. James Rudge, for apples and pears. The show of out-door grapes much surprised us, and great pains must have been taken by their growers. The blaze of dahlias on a stage at the end of the room (embracing, we understand, all the known double varieties of that most beautiful flower) was somewhat subdued by a small but select assortment of stove and green-house plants, tastefully placed at their back. The effect produced was most enchanting, and the mass of colour most beautiful. J. G. Ruel, Esq., of Pembridge House, exhibited fourteen new varieties of corn and pulse, grown by him on his farm at Newton. Of their particular merits we should be glad to be informed, as we heard several agricultural gentlemen complimenting Mr. Ruel for the services he was rendering his country. The total number of specimens ticketed and entered on the Society's book amounted to 933, and the evening's sale of fruit not removed by the exhibitors amounted to 5*l.* 10*s.* 9*d.*, a sum at once establishing our report of the fruits.

The prizes were awarded as follows: — *Apples.* Dessert: 1. Golden Pippin, Rev. K. E. Money; 2. Holmer's Kernel, Mrs. Platt; 3. Margil, Rev. K. E. Money; 4. Court d'Wick, Mr. Hooper; 5. Ribston Pippin, Rev. Love Robertson. Culinary: 1. Greenling, Mrs. James Rudge; 2. Orange Prunella, T. Spencer, Esq.; 3. Wheeler's Russet, Rev. K. E. Money; 4. Wheeler's Extreme, Mr. J. C. Wheeler; 5. New Pearmain, T. Spencer, Esq. Cider: 1. Hagloe Crabb, 2. Yellow Stire, and 3. Foxwhelp, Mrs. James Rudge; 4. Red Beach, J. Cooke, Esq.; 5. Captain Nourse, Mrs. J. Rudge. — *Pears.* Dessert: 1. Chaumontel, Rev. H. Williams; 2. Gansell's Bergamot, and 3. Brown Beurre, Col. Money; 4. New Swan's Egg, Mrs. Platt; 5. Honey Knap, Col. Money. Perry: 1. New Longland, P. Matthews, Esq.; 2. Old Longland, Mr. Reynolds; 3. Oldfield, Mrs. Westfaling; 4. Helen's Green, and 5. Pine Pear, Col. Money. — *Out-door Grapes.* 1. Muscadine, Mr. T. E. Jones; 2. Black Esperion, Col. Money; 3. Old Sweetwater, Mr. T. E. Jones; 4. New Sweetwater, C. Bliss, Esq.; 5. Black Cluster, Mrs. Platt. — *Dahlias.* Dark double: 1. Diadem, Mrs. James Rudge; 2. Coronation, Messrs. Breese and Reynolds; 3. Isabella, 4. Seedling, and 5. Superbissima, Mrs. Westfaling. Light double: 1. Mont Blanc, Messrs. Breese and Reynolds; 2. Princess Victoria, Mrs. Westfaling; 3.

Quilled Lilac, Mrs. James Rudge; 4. Grisdeline Superb, Mr. Hooper; 5. Sulphuret, Mrs. James Rudge. (*Hereford Journal*, Oct. 15.)

SUFFOLK.

Ipswich Flower Show.—At the Annual Show of Carnations and picotees, held on July. 17th, the judges were, Mr. Churchill, Mr. T. Clark, and Mr. R. Clark, who awarded the following prizes:—*Carnations*: 1. Scarlet Bizard Seedling, named the Marquess of Hertford, and Pink and Pin Bizard Lady Harland, Hufton's La Belle Alliance, Sicklemere's Lady Rowley, and Fletcher's Lord Anson, Mr. W. Woollard; 2. Gregory's King Alfred, Huttersley's Freedom, Wild's Perfection, Staniforth's Yorkshire Lass, Fletcher's Duchess of Devonshire, and Pearson's Rising Sun, Mr. Baldiston; 3. Smalley's Foxhunter, Lacey's Waterloo, Ive's Prince Leopold, Pearson's Madam Mara, Hufton's La Belle Alliance, and Barker's Scarlet Flake, Mr. Lee. *Picotees*: Hufton's Stukely and Lee's Lady Milton, Mr. Shreeve. *Seedlings*: Scarlet Bizard, afterwards named Woollard's Duke of Wellington, Mr. Woollard; Scarlet Flake, afterwards named Goodwin's Miss Clark, Mr. Goodwin; Purple Picotee, afterwards named Lee's Miss Bellman, Mr. Lee. A beautiful red-edged Seedling Picotee of Mr. Woollard's was much admired, and afterwards named Woollard's Miss Bacon. The flowers in general were allowed to be quite equal, if not superior, to those produced at any previous show; the seedlings, in particular, were excellent. We congratulate Mr. Woollard on being so fortunate, as it is considered, among the florists themselves, that his Scarlet Bizards and Crimson Bizards possess such superior properties, that, when a stock is obtained of them, they will drive many of the good old flowers entirely out of the garden. The company, which was highly respectable, dined together upon the occasion; after which the president, Mr. H. Ridley, circulated many appropriate toasts, and the day was finished with the greatest mirth and glee. (*Suffolk Chron.*, July 26.)

Wickham Crown Flower Show.—The Annual Show of Carnations and Picotees, held on July 21., was very numerous and respectably attended, and a great many fine flowers were exhibited. The flowers were adjudged by Mr. C. Barker, Mr. Dunning, and Mr. Williams, as follows:—*Carnations*: Bizards: 1. Walker's Marquess and Smalley's Foxhunter, Mr. William Barker, Wickham; 2. Smalley's Foxhunter and Davey's Duchess, Mr. Lee, Helmingham. *Flakes*: 1. Hufton's La Belle Alliance and Fletcher's Duchess, Mr. William Barker, Hemingstone; 2. Fletcher's Duchess and Turner's Princess of Wales, Mr. Scotchmer, Otley. *Picotees*: Cornfield's Sir Robert Wilson and Hufton's Will Stukeley, Mr. Tyler, Wickham. *Seedlings*: Bizard, afterwards named Lee's Rifleman, Mr. Lee, Helmingham; Picotee, afterwards named Loudham's Isabella, Mr. C. Cadman, Wickham. (*Ibid.*)

Woodbridge Flower Show.—At the Annual Show of Carnations and Picotees, held on July 21., there was a fine display of good flowers, particularly some seedlings, raised by Mr. Churchill, Sudborne, and Mr. Woollard, Ipswich. The prizes were adjudged by Messrs. Thompson, Cooper, and Woollard. *Carnations* (best pan of six flowers): 1. Strong's Victorious, Rainbow, Bate's Waterloo, Turner's Princess, Miss Godfrey, and Lord Anson, Mr. Clark; 2. Davy's Duchess, Strong's Victorious, Strong's Seedlings, and three Seedlings (afterwards named Dowager Marchioness of Hertford, Marquess of Hertford, and Duke of Wellington), Mr. Churchill; 3. Davey's Duchess, Victorious, Duke of Sussex, Duchess of Rutland, Fletcher's Duchess, and La Belle Alliance, Mr. Shreeve. *Picotees*: Will Stukeley, Seedling (afterwards named Miss Collinson), Mr. Woollard. (*Ibid.*)

Bury Horticultural Society.—The first Show of this Society was held on the 9th of September, and the spirit with which it was supported, the num-

ber of subscribers and exhibitors, and the large company who visited the room, far exceeded the anticipation of those with whom the design so recently originated. The flowers, fruit, and vegetables, which were tastefully arranged round the room, were most creditable to the skill of the producers. The dahlias were magnificent, formed into groups of full double flowers of every hue, from pale yellow to bright scarlet, and from delicately shaded pink to the deep puce of the Black Turban. Mr. Hodson, from the botanic garden, produced a beautiful potted plant, a fine variety of *Calceolària integrifolia*, raised from a seed sent from Van Dieman's Land to Mrs. Petteward, of Finborough Hall, who presented it to the garden early in the last spring, which was greatly admired, and for which a prize was awarded. Two elegant fuchsias and a very fine hydrangea, shown by the Rev. T. Rogers, also excited particular notice. Of the fruit, the most curious were a peach and nectarine growing upon one twig, from the garden of R. Benyon de Beauvoir, Esq., at Culford. Mr. Marriott's seedling nectarine, we understand, was of exquisitely fine flavour, as was also the Graveston Apple, a species imported from Germany by the Rev. T. G. Cullum, and but little known in this country. Mr. Hodson's seedling crab and the Delaware Pippin, were very beautiful in appearance. The grapes were much better than the season would have led us to suppose possible. Some of the onions measured a foot in circumference; and the epicures afterwards pronounced, that whilst such could be produced at home, it was quite needless to seek for them in Portugal. The exhibition was inspected by above five hundred persons, the greater part ladies. The judges then proceeded to their examination. At half past three, nearly ninety persons sat down to dinner; and, after the cloth was removed, R. Bevan, Esq., the president, having proposed to drink "Success to the Society," read the award of the judges, stating that the prizes would be given in money, or the value in plate, at the option of the parties. — *Fruit.* Peaches (Royal George), and Nectarines (Elruge), Mr. Barrett, gardener to the Rev. T. G. Cullum. Melon, Mr. Wright, gardener to Lord Calthorpe, Ampton. Out-door Grapes (Black), Mr. Buchanan, Stowmarket; White, Mr. Lord, gardener to Rev. Jas. Cullum. Pears (Bergamot), Mr. Taylor, Bury. Plums (Green Gages), and Cherries (Morello), Mr. Barrett. Apples: Dessert (Ribston Pippin), Rev. C. Dewhurst, Bury; Kitchen (Hawthorndean), Mr. Levett, Rougham. Seedling Nectarine, Mr. Marriott, Stowupland. Seedling Crab, Mr. Hodson. Strawberries and Raspberries, Mr. Marriott. Filberts, Rev. C. Dewhurst. Nuts, Mr. George Garnham, Rougham. — *Culinary Vegetables:* Celery, Mr. Hammond, gardener to Sir H. Bunbury. Onions, T. Penteney, gardener to Miss Cocksedge, Bury. Peas, Mr. Musk, gardener to Lady M. A. Gage, Hengrave. — *Flowers.* Dahlias, Mr. Buchanan. Growing Plant, *Calceolària integrifolia*, Mr. Hodson. Bouquet, Border Flowers, Mr. Lord.

Mr. Bevan then proceeded to observe, that although the peach and nectarine on one stem, which had been brought by Mr. Knights, from the garden of Mr. Benyon de Beauvoir, was rather a *lusus naturæ* than a production of any merit, yet, as an encouragement to other persons to exhibit similar curiosities, the Committee thought it right to request Mr. Knights's acceptance of an unapplied premium. He wished particularly to mention a seedling apple, which appeared to possess great merit, grown by a labourer named Leach, which had been sent by Mr. Wilson, of Gazely, but, unfortunately, arrived too late. It was particularly desirable to encourage emulation of this sort amongst the cottagers; and he hoped that, on another occasion, this person would be more successful. — The health of the chairman being afterwards proposed, Mr. Bevan, in returning thanks, observed, that he had been induced to give his support to the Society from a conviction of its utility and good social tendency. If any one were travelling, and:

wished to point out a country where contentment, virtue, and happiness were most to be found, he would choose that in which the cottagers' gardens were most flourishing; or in passing through a town, he would take the geraniums in the window as a similar indication. He would not go so far as to say that gardening produced the virtue, but rather that virtue produced the garden. But in this case he believed that, contrary to the general rule of nature, they might add to the vigour of the root by affording nourishment to the branches. Several appropriate and local toasts were afterwards drank, and the afternoon appeared to be enjoyed by every one present. (*Cambridge Chron.*, Sept. 19.)

ART. VI. *Domestic Economy.*

THE Citric Acid may be prepared from gooseberries, by bruising and fermenting them, separating the alcohol by distillation, adding carbonate of lime to the residuum, and afterwards water and sulphuric acid. The process is rather too intricate to be attempted by any who have not some knowledge of chemistry; but it is satisfactory to know that druggists may, in future, if they choose to adopt this material, and the process of M. Tilloy, as detailed in the *Journal de Pharmacie*, for April, 1828, afford an acid so useful in domestic economy (p. 307.), at less than half the usual price. (*Phil. Mag.*, Aug. 1828, p. 153.)

Potato Flour. Recipe for making the Bread called the Baronet's Bread. — One pound and three quarters of potato flour, to three quarters of a pound of wheaten flour, to be used. Three table-spoonfuls of yeast, to a half mutchkin of milk-warm water, to be poured into the centre of the dish containing the flour, part of which is to be beaten up with the yeast. The flour taken from the centre of the dish into which the diluted yeast is poured, to be wrought up with the batch, when it has fermented. The batch will work up better after fermentation, if the flour then used be entirely wheaten. The fermentation to be allowed to proceed for seven or eight hours; and, when it is completed, an English pint of warm water should be used, in working up the unfermented flour with the batch. In working up the batch, after fermentation, about half an ounce of salt is to be mixed with it. After the batch has been wrought up, it is divided, and put into the required forms, where it is to remain for 20 minutes, that, by fermenting in them, it may accommodate itself to their respective shapes. The moulds are then put into the oven, where they remain for a greater or less time, according to their size, one hour being generally sufficient for a quartern loaf, in a large brick oven; but, in a small oven, three quarters of an hour are required, for a loaf one fourth part of that size; but the sufficiency of firing is best judged of by the fingers of an experienced baker. The bread is much improved by a small quantity of butter, in the proportion of four ounces to the peck of flour, being mixed up with the water used in working the batch with the unfermented flour. From the assurance we have received of the excellence of the baronet's bread, we feel ourselves well warranted in recommending it to the special favour of every thrifty housewife. (*Inverness Courier.*)

How to improve dried Figs. — These fruits, when they are brought to table, are commonly covered with a scurf, composed of a mealy, sugary substance, very disagreeable to the teeth. A correspondent says that the way to get rid of this scurf, and render the figs as plump and clear-skinned as when they are newly gathered from the tree, is, first to keep them in a cool and rather moist cellar, for twenty-four hours before using; and, secondly, just before presenting them at table, to put them into a receiver,

and exhaust the air. After remaining there two minutes, they should be taken out, and gently brushed, when they will be found perfectly plump and clear-skinned. — *A. K.*

Damp may be prevented from exuding from the Walls of Apartments, by first drying them thoroughly, and then saturating them with fatty matter of any kind. One part linseed oil, boiled with one tenth of its weight of litharge, and two parts of resin, if applied in successive coats, will, after the fifth time, form a varnish on the wall, so hard and compact, as to be impermeable by moisture. (*Jour. R. Inst.*, No. xliii.)

The Seeds of Grapes have been discovered to be an excellent substitute for coffee. When pressed, they first produce a quantity of oil, and afterwards, when boiled, furnish liquid very similar to that produced from coffee. The practice has become very general throughout Germany. (*Mechanic's Magazine.*)

ART. VII. *Retrospective Criticism.*

INFLUENCE of transmitted Pollen. — Mr. Knight's remarks on this subject are curious, and account for a circumstance which once happened to myself: for, having planted Scarlet-flesh and Green-coated Spanish melons in the same frame, the fruit of the latter was much changed; some worthless, and one very excellent. — *Superficial.*

Red and White Varieties of the Scotch Pine. — I beg leave to make a few observations on the subject of your correspondent J. R.'s critique (p. 315.), on the opinion of the *Quarterly* about there being red and white varieties of the Scotch pine.

Whether there is a Canadian Scotch pine, or that Don found it in the woods near Forfar, or that the true red is only found in the Highlands of Scotland, are questionable matters which I cannot solve. Certain it is, we have two very distinct kinds of Scotch pine in England. Having been long a planter, and, in course, a constant observer of the habit of these trees, I have been long aware that two varieties, or rather, I should say, one variety of the common species existed. These I have unconsciously sowed, and transplanted together upon the same spots, soils, and aspects, without knowing one from the other. At the end of ten or twelve years, however, their different characters became visible, but which I only attributed to some incidental circumstance affecting the constitutions of the individuals, and never suspected that the peculiarity noticed was that of a permanent variety. Neither am I certain even now that this is the case; as I never tried whether seedlings from each would come, and continue true to the character of their progenitors.

The more common is the more regularly formed; stem erect, seldom divided; branches rising first obliquely upward, gradually becoming horizontal, and at last drooping; the whole top forming a very regular cone; bark rough, divided perpendicularly into numerous fissures, and, when old, very rugged on the lower part. This is the character of a single tree of the common sort, after fifty or sixty years' growth. The other, which I consider to be a variety, has a much smoother bark in all stages of its growth; the stem often divided near the ground; the head formed of large arms; one or other of them (not that nearest the centre, as in the former) often taking the lead laterally, thereby giving the head much irregularity of outline and a form not at all conical.

When the two kinds are planted singly, they may be distinguished from each other as far off as they can be seen; and, in close planting, though

drawn up by those around, the variety may be easily known by its smoother bark, and lower-branched trunk.

Although I have ordered the felling and sawing up of thousands of both kinds, I never thought of examining, nor did I ever notice which of them was superior in point of quality. Three trees of the first I saw felled and cut up into flooring boards, which, in the opinion of competent judges, were not in the least inferior to the best yellow deal of the Baltic. These trees were large, and not less than 107 years old when felled.

From this fact I conclude, that age or slowness of growth gives the requisite quality to the timber : and have no doubt but that the slender stripplings in the interior of thickly growing woods, such as the natural woods of Norway, or those frequently seen in England, are of as good quality as the heart of the largest trees.

Is it not probable, that the kind noticed by Don is the same with the variety described above ? and would it not be worth while to collect the seeds and sow them separately ? The variety is a much more picturesque tree than the common one, and therefore would be preferred by the landscape-gardener, where such a character is desirable.

I cannot for a moment doubt the accuracy of J. R.'s. statement, as to soil altering the quality or colour of the timber : he points to instances which are sufficiently confirmative of his opinion. On this I have only to add, that soil was not the cause of the difference of habit described above ; though, as J. R. asserts, it may produce a difference in the quality of the timber. — *M.*

Barrenness of the Grape Vine within the Tropics. — Dr. Hamilton (p. 443.) observes that he cannot conjecture whence this information has been derived. I beg to answer, from the state of vines seen cultivated at various places on the coast of Coromandel, in the East Indies. There they are trained on different kinds of trellises, and as arbours, but without success. I cannot affirm that much art was employed in pruning, and certainly no regard was had to *lunar* influence. But the fact that the solar heat is too intense in those regions for the constitution of the vine is evident, as no fruit is ever obtained unless under some mitigating circumstances ; as great elevation above the level of the sea, shady situation, or peculiar aspect. A gentleman, lately arrived in England from that part of India, confirms the above account, but adds, that grapes come to great perfection on the mountainous parts of the ceded districts of the Mysore. — *J. A. M. Oct. 28. 1828.*

The Life of a Jobbing Gardener. — I not only read with avidity your last-published Number, but often turn back to some of your first ; and, having much leisure, frequently feel inclined to contribute something for the retrospective section of your work ; and, as I have always been a reader, though not much of a practical, gardener, I may, perhaps, occasionally present some remarks on what has been said of, or done by, gardeners of the old school, that may not be unamusing to some of your young readers. In a late retrogradation, Mr. M'Naughton's life (Vol. I. p. 24.) met my eye ; and, feeling that his is a pitiable, and not uncommon, case, I became desirous of giving a little advice on the subject ; and, in the first place, I am compelled to remark that many deserving men, like him, inconsiderately leave a comfortable servitude for the sake of ideal liberty, and seek in personal freedom that satisfaction which their own restless disposition denied them in place. If, from steadiness of character and ability in business, they get more employment than they can perform or superintend themselves, their first error is taking as assistants what are called "blue-apron-men," "St. George's Fields gardeners," who, ignorant and uncontrolled, spoil more trees and plants than all other mishaps put together. Soon our jobbing gardener goes down hill ; he shares the contemptible character of his associates, is neglected, and soon forgotten. But, if such a man were moderate, and not grasping at

too much, and also fortunate enough to get a small house, with a bit of ground to raise the young plants wanted by his customers, I know not a situation in life where an industrious man has a better chance of getting forward. Had Mr. McNaughton followed this plan, as several I could name have done, it is probable he might have been master of a comfortable house and large garden, and either a florist or nurseryman, as best suited his own fancy. — *Superficial.*

ART. VIII. *Queries and Answers to Queries.*

Use of Lime in the Culture of the Soil. — Sir, Having noticed, a short time ago, that one of your subscribers had expressed a wish to know something of the use and properties of lime as a manure, I beg to present you with the following short but highly interesting extract by Professor Brande on that subject : —

“ Limestone is a substance of great importance in the arts; it gives us quick-lime when burnt, and is the base of many cements, forming a mortar when mixed with sand, which has the property of gradually concreting, until it becomes as hard as stone. It is also of great use in agriculture, to say nothing of its ornamental applications, which are very numerous. The fact is, that lime is one of the most important manures which we possess. Quick-lime has the power of acting on animal and vegetable substances, so as to render them soluble in water; and it is in this way that the different vegetable and animal substances are rendered fit for the nourishment of plants, the lime itself becoming inert, and forming a valuable part of the soil. The lime, therefore, ought to be applied to the soil, or mixed with other manures, as quickly as possible after it comes from the kiln; and hence the great impropriety of leaving heaps of it about the fields, as you often see done, by which it loses its activity and usefulness.”

I conceive that it would appear not only highly presumptuous, but also ridiculous for me, whose pretensions to a knowledge of gardening are so slight, and whose operations therein are so confined, to give, after so able a master, and particularly during the learned dissertation of Mr. G. W. Johnson, the result of any little experiments of my own; I will, therefore, content myself with simply stating that I have found lime, applied in a quick state, as soon as it has been slacked, the best corrector and sweetener of all fresh dug soils, particularly of those called heavy, wet, and sour, and the best antidote against the effects of tilt or oxide of iron. It materially assists in breaking and separating stiff loamy earth; and, if it does not actually impart warmth, at least it renders it more accessible to the sun's rays, and more subject to the influence of the atmosphere. Nothing hastens the decomposition of all animal and vegetable matter so soon as lime, particularly in those substances which are not easily affected and reduced by a fermenting heat. No ground, where it has been applied in any quantity, ought to be planted, nor any compost, in which it has been mixed, ought to be made use of, for three or four months after. It will by that time have got rid of all its caustic and other active properties, and have become an inert chalky substance, or matter, which will constitute a harmless at least, if not a beneficial, ingredient in any soil. The best time for applying it, as a manure to the garden, is in the autumn. Perhaps some of your more experienced correspondents will continue the subject. Yours, very truly, — *Thomas Hogg. Paddington, March 2.*

The Chinese Primrose. — Sir, I was not aware that there was any doubt or difficulty, as to the proper modes of cultivating the Chinese Primrose (*Primula sinensis*), till I saw an enquiry on the subject in — I forget what

periodical publication. There is, I believe, no trouble attendant on the propagation of this plant, which may be effected by separating the roots. In the spring of the year 1825, I accidentally broke off a part of one at the crown of the root; the broken part had very little fibre on it, and I had little hope of preserving it; yet I was unwilling to throw away any part of it while it had the least remains of life, the rather as it had been given me by a friend; I therefore planted the broken part. It took root, grew, flourished, flowered in the autumn as well as the parent plant, and I might still have been admiring its beauty and fragrance but for one of those incorrigible imps of mischief, the race of Grimalkin. At a time when I was absent from home, the pot was thrown down by a cat, the plant was not properly replaced, and, when I returned home, it was to mourn the loss of my primrose, doubly endeared to me, as the gift of a friend, and a thing saved from premature destruction. I have not repeated the experiment, but, from the success of this first attempt, am disposed to believe that parting the roots of this plant will be found a mode of propagation as sure as it is simple. I remain, Sir, &c. — *E. K.*

Cape Heaths. — Sir, I shall feel, particularly obliged by you or some of your correspondents informing me, through the medium of your Gardener's Magazine, the best manner of treating the Cape heaths, in order to obtain the largest quantity of young plants. Do they require the aid of a hot-house to force the cuttings at any season? I was once informed by a great grower of heaths in Acre Lane, that he struck twelve hundred of the *Vestita* from two plants in one spring, but he would not say in what manner he managed them. I am, Sir, &c. — *J. Dodds. Crondall, near Farnham, August 7. 1828.*

The Bamboo would be a great acquisition to the kingdom, if it could be made to thrive on our numerous low wet islets at the mouths of all our large rivers, or on the thousands of acres of shingle lying bare on the coast. Is there any hope that this could be done? If not, can any of your readers say what useful plant would grow on the shingle? At present no attempt is made to cover it with vegetation of any kind. — *R. in U.*

We fear there is little or no hope as to the Bamboo. The *E'lymus arenarius*, *geniculatus*, and *sibiricus* (*Encyc. of Agr.*, § 4206.) are the best plants we know of for the purposes mentioned. — *Cond.*

New Variety of Black Currants. — In a cottager's garden, near Bath, an accidental variety of the black currant was produced about two or three years ago, and, I am told, is still in existence; it possessed every character of the parent plant, except in the colour of the fruit, which was white. Do you, or any of your readers, know any thing of it? Probably it may be that mentioned by G. S., p. 120. — *R. in U.*

Botanic Gardens. — Can you, Sir, inform me whether there is any botanic garden near London where persons may go and study, and whether there is any mode of procuring garden specimens of our rarer British plants not generally cultivated but in botanic gardens? If you go to see the botanic garden at Kew, you have a man at your elbow all the time, to prevent you from *stealing*; and, besides, are hurried over in half an hour, where I could willingly spend day after day. I have been refused admittance into the apothecaries' garden at Chelsea, and was told that nobody but members of the company were admitted. This, however, I know is not the case, as I have friends who have frequently seen them, and who had nothing to do with the company. I remain, Sir, &c. — *W. Griffith. 12. Queen Anne Street.*

ART. IX. *Biography.*

DR. WITHERING, the celebrated author of the *Botanical Arrangement of British Plants*, was born at Wellington, in the year 1741. The family from which he descended was respectable, and had resided, during many generations, on a small patrimony in Shropshire. His father was a physician; his mother a relation of the celebrated Hurd, Bishop of Worcester.

Nothing strikingly remarkable is recorded of Dr. Withering's early years. He seems to have received a good classical education, and to have had his mind imbued, by his excellent parents, with the principles of morality and religion; and was more distinguished for steady sense and correct judgment, than for the flights of fancy, or the eccentricities of genius. In the autumn of 1762, he was matriculated at the university of Edinburgh, where he seems to have distinguished himself, by pursuing his studies with the greatest diligence and attention. In the year 1766, Dr. Withering completed his academical studies with great credit to himself, and obtained the degree of Doctor of Physic. Upon his quitting the university, he made an excursion to France; and, upon his return to England, he first settled at Stafford; and here he attended, as a physician, the accomplished lady who became the partner of his future life; and it is not improbable that this attachment greatly increased, if it did not produce, that botanical turn which has since rendered his name so conspicuous in this department of science. She drew beautifully, and he appears to have gathered wild plants as subjects for her pencil. This soon became a favourite pursuit. Possessing, at this time, a good deal of leisure, he collected specimens for that herbarium which he afterwards rendered so complete. His predilection, however, for this study was, in the former years of his life, by no means of that description which might have been imagined; for, while he was residing as a student at Edinburgh, he thus expresses himself in a letter to his parents: "The Botanical Professor gives, annually, a gold medal to such of his pupils as are most industrious in that branch of science. An incitement of this kind is often productive of the greatest emulation in young minds, though, I confess, it will hardly have charms enough to banish the disagreeable ideas I have formed of the study of botany." So little was he aware, at this period, that it would become at length one of his most distinguished pursuits. He remained at Stafford eight years, much beloved by all classes of people; but the arduous duties of his profession were too much for his health. Yet, notwithstanding his invalid state, he persevered in his botanical arrangements, and, during this period, presented the public with the first edition of his *English Botany*. His philosophical attention, however, was by no means confined to botany; chemistry, mineralogy, and every branch of natural philosophy connected with his profession, occupied him in succession. By the death of Dr. Ash, who practised in Birmingham, he entered upon a circuit of practice, which, for extent and emolument, has scarcely ever been surpassed, if indeed equalled, out of London.

Dr. Withering's health, always delicate and precarious, obliged him to remove, in the year 1786, from Birmingham to Edgbaston Hall, where, in the year 1791, in the month of July, he and his family suffered much alarm, and some injury, in the riot at Birmingham. In the following year, 1792, his health became so much impaired, that he was induced to try the milder climate of Portugal; but the advantage derived was so transient, that he preferred ever after passing the winter in England, and securing himself from the injury of the climate by a regulated atmosphere in his own apartment. He now found every succeeding winter a season of confinement, of privation, and of suffering. In the year 1767, the position of writing became at times so oppressive, that it was almost insupportable, and his power of conversing was also very limited. In the year 1799, he determined to leave his favourite Edgbaston, and he took possession of his new house, the

Larches, on the 28th of September. On the 2d of October his disease increased so rapidly as to occasion great alarm, and on the 5th all hope was extinct; but he evinced an entire confidence in the goodness of an overruling Providence, tempered with a pious resignation to His will; and, while praising and magnifying the Lord, his features were illuminated with the ardent desire of a speedy translation to those realms where pain and sorrow are no more.

Besides his *Botanical Arrangement of British Plants*, Dr. Withering gave to the world *An Account of the Cure of the Plague by Olive Oil*, and *A Prevention of the dreadful Malady of Hydrophobia*. His application of the Digitalis to the disease of dropsy is well known, and forms quite an era in this department of medical science. Its application to cases of insanity is by no means so generally known, though it should seem desirable that the faculty would attentively consider the facts which the Doctor has recorded of such cases.

ART. X. Obituary.

DIED. — At Mavis Grove, on the 23d of September, Euphemia Todd, aged 74, relict of John Jackson, who was gardener to the late Colonel and Mrs. Depeyster twenty-two years. (*Dumfries Courier*).

ART. XI. Notice to Landscape-Gardeners.

THE gardens laid out by the late M. Sckell, at Munich (p. 493.), together with his writings, which we shall translate and publish early in spring, have suggested to us a scheme which, we think, will tend to advance landscape-gardening in England, and certainly be for the benefit of landscape-gardeners there and in other countries. It is, to publish a specimen of the style of laying out and planting the grounds of a country-residence, at present in use by all the principal artists now practising in Europe; or by as many of them as, in consequence of this notice, shall think fit to send us plans. We have already received several for France and Germany, and expect more; and we hereby invite the garden-artists of Britain, each to prepare for us a working plan, with a few square inches in any part of it finished, merely for the sake of showing their style of finishing, and particularly indicating the distribution of the different species of trees. This can be done most minutely and completely in the description which must necessarily accompany the plan, by numbering the indications on the plan, and writing the names of the trees after the numbers in the descriptive paper. The size of the plates which we intend to publish will be 2½ ft. by 3½ ft. We should prefer the plan of some place actually laid out by the artist; but, if this should be inconvenient, he may give the plan of an imaginary place, and therein embody the whole *beau idéal* of his taste and knowledge in landscape-gardening. All the plans must be sent by the middle of January next, as none will be received later than the first of February, and every artist who supplies one will be furnished with a copy of the work gratis. The plans to be addressed (carriage paid) to the Conductor, at the Publishers'. We hope that, among other friends, Messrs. Liné of Berlin, Main, Morris, Major, M'Leish, Cormack, Sinclair, Fraser, &c. &c., will comply with this request. — *Cond. Nuremberg, Nov. 12.*

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